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### ABSTRACT

This document contains materials developed for and about the multicompetencies health technologies tech prep program of the South-Western City Schools in Ohio. Part 1 begins with a map of the program, which begins with a health technologies core in grades 11 and 12 that leads to entry-level employment or one of four 2-year programs at a community college (medical assisting technology, multicompetency health technology, nursing technology, and health information management technology) that in turn lead to a technical career or transfer to a four-year college or university. Also included in part 1 are the secondary and postsecondary curriculum for a vocational school and two high schools and a community college. Part 2, which constitutes approximately 50% of the document, lists the program's (unleveled) secondary technical and academic competencies. In part 3, the secondary competencies are leveled for a vocational school, and in part 4, the postsecondary competencies are leveled for a community college. Parts 5-7 contain the following: labor market data; list of advisory/review committee members; and program application (information on employment opportunities in the area, potential exit occupations for the program, and plans for the program's delivery). (MN)

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### **HEART of OHIO TECH PREP CONSORTIUM**

### Multi-Competency Health **Technologies**

Approved, Consortium Board of Directors, 1996

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Community College

Secondary & Postsecondary Curriculum Pathways & Narratives

Secondary Academic Competencies -Unleveled

- Secondary Competencies Leveled per School
- Postsecondary Competencies
- Labor Market Data
- **Program Application**

**Heart of Ohio Tech Prep Consortium** 

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### **MULTI-COMPETENCY HEALTH TECHNOLOGIES**

### Heart of Ohio Tech Prep Consortium Approved, Consortium Board of Directors, 1996

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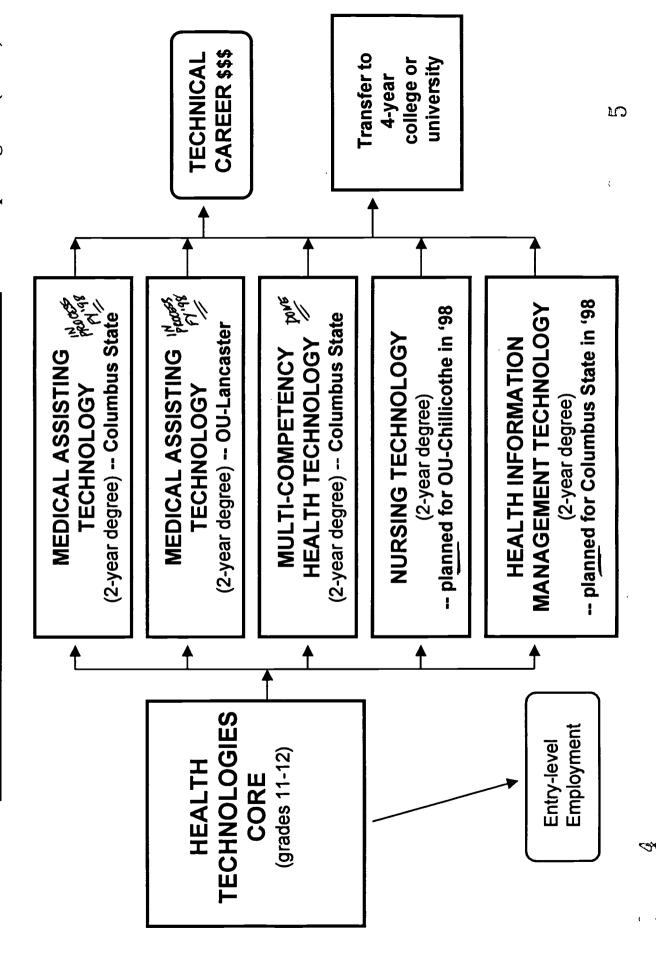
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MAP of MULTI-COMPETENCY HEALTH TECHNOLOGIES Tech Prep Program (12/97) Heart of Ohio Tech Prep Consortium





### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART I.A: Secondary Curriculum Pathways and Narratives



## Multi-Competency Health Technology

### **Eastland VEPD**

## Central Ohio Tech Prep Consortium

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
				Tech Comm 11	40	World Culture/	40
				Anatomy & Physiology	40	Global Problems	
				American Culture/	40	Analytical Algebra IV	40
				Government		Tech Comm 12	40
				Analytical Algebra III	40	Tech Chemistry	40
				Tech Prep Lab	100-	*Tech Prep Lab	100- 150
PREREQUISITES FOR GRADE 11 OF TECH PRE Demonstrate potential for college preparatory co standardized achievement test and by being enrocurriculum with no academic deficiencies for gr Word Processing.	11 OF TE	PREREQUISITES FOR GRADE 11 OF TECH PREP:  Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.	a nd	PREREQUISITES FOR COLLEGE PORTION OF TECH PREP: Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.	E PORTI ade Tech Itory cou	ON OF TECH PREP:  Prep academic and technical rise work. Articulation or students place into the progr	am.
SUGGESTED ELECTIVES: Foreign Language (Grades 9 & 10) Tech Prep Physics (Grade 12) Computer Literacy (Grades 9 & 10)	10)			EXPLANATION OF TECH PREP BLOCKS: 11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period).	P BLOCK ational co duling al	S: ompetencies taught in 100 - 15 lows instruction to dictate leng	io gth of
				*12th Grade: Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.	ompetenc site-basec ptions.	ies developed through particip I internships, mentorships; and	oation Vor
HIGH SCHOOL EXIT OCCUPATIONS:  Nurse Assistant, Home Health Aide, and Ward Clerk	TIONS: Nide, and	Ward Clerk		COLLEGE EXIT OCCUPATIONS: Multi-Competent Health Technician, Patient Care Technician, Histology	IS: ician, Pa	tient Care Technician, Histolog	<u>}</u>



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Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.

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### FAIRFIELD CAREER CENTER EASTLAND VOCATIONAL SCHOOL DISTRICT

### MULTI-COMPETENCY HEALTH TECHNOLOGIES

### **Competency Outline**

ACADEMIC COURSES

CSCC ARTICULATION

**JUNIOR YEAR** 

Communications (competencies target preparing

students to place into English III)

Analytical Algebra III

Social Studies (American Culture/Government)
Biology (competencies identified for Bio

101 - Anatomy & Physiology) - Students are also expected to demonstrate competencies identified for Bio 100 before completing this program

Sign Language - OPTIONAL

**SENIOR YEAR** 

Communications (competencies target preparing

students to place into English 111)

Analytical Algebra IV (competency based course work preparing students to place into math 148)
Social Studies (World Culture/Global Problems)
Chemistry (competencies identified for Chem 100)

Sign Language - OPTIONAL

ITT 101

CCC MIII TI

### **VOCATIONAL/TECHNICAL COURSES**

JUNIOR CORE CURRICULUM PATHWAY		CSCC MULTI HEALTH TECH <u>PATHWAY</u>	ASSESSMENT
All Year	Medical Terminology	Mult 101	Dean Vaughn Medical Test
	Employability Skills Insurance		
Qtr 1	Career Exploration, Medical Law & Ethics, Quality Control		
Qtr 2	Safety & Infection Control		
	Infection Control & Hazards Management		American Red Cross Certification
	HIV/AIDS (Red Cross Curriculum)	Mult 171	Closs Calification
Qtr 3	First Aid, CPR, and Medical Emergencies	Mult 102 Mult 103	American Red Cross & Heart Association Certification
Qtr 4	NATP - Nurse Aid Training Program	Mult 120	State Test



### SENIOR ELECTIVE **CURRICULUM OPTIONS**

### **ASSESSMENT**

**Quarter Options** 

Diagnostic Procedures Basic EKG Radiology Allergy Testing

- **Laboratory Procedures**
- Clinical Laboratory Technology

Phlebotomy Technology

**Mult 114** Mult 115 **IAPs-International** Academy of Phlebotomy

**Scientists** 

Sterilization, Disinfection, Minor Surgery & Instrumentation Intro to Medications/Pharmacology

- General Office Procedures
- Patient Care Skills

**Mult 126** 

Practicum at Columbus

State Community College-

\$50.00 fee

Homemaker - Home Health Aide

Mult 122

National Curriculum

and Test

- **Disability Education**
- 10- Community Safety & Health

Mult 172

American Red Cross HIV/AIDs Instructor

Certification

- 11- Craft & Leisure Skills
- 12- Human Development
- 13- Introduction to Surgical Technology

Required Quarter

Independent Study - Career Focus - mentorship/ internship at worksite or post secondary enrollment

SENIOR YEAR (students will need to select 3 areas of concentration plus 1 quarter of independent study)

> Senior options may be articulated with other health related technologies at Columbus State for advanced credit.

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### Central Ohio Tech Prep Consortium Curriculum Pathway Narrative

Eastland Career Center April 1996

Directions: Please complete this document to accompany the curriculum pathways.

In the space below, describe system change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Systemic changes are reflected in the Allied Health (Multi-Competency Health) Technology program schedule where students have the option of attending the career center for a full day or attending their home school for the academic portion of the program and spending a half day at the career center for the occupational portion of the program.

The primary focus of the Eastland Allied Health Technology program is to prepare students for continued study in two-year or four-year colleges after high school graduation. While meeting this goal, the program also prepares the student for an entry-level position in several health care fields.

Approximately one-half of the day is spent in academic classes. Instructors in biology, chemistry, algebra, communications, social studies, and sign language work closely with the program instructor to relate college-preparatory academic course work to the health care industry.

The other half-day involves textbook and hands-on learning connected to various aspects of health care. The occupational competencies will be delivered in the 100 - 150-minute Allied health lab. Flexible block scheduling allows the Allied Health Technology instructor and the academic teaching team to work with the same group of students. This scheduling provides the flexibility for teachers to develop interdisciplinary units, to team teach, and to adjust periods allowing more instructional time for specific topics.

In addition to daily contact with the Allied Health Technology instructor, students will receive instruction from other health professionals. Students will use their newly learned skills in clinical experiences at local health care institutions and refine these skills when shadowing health care professionals.

During the senior year of the program, occupational competencies are developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options. Qualified seniors will spend the final quarter involved in an independent study involving their individually chosen health profession.

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Eastland Career Center Curriculum Pathway Narrative/Allied Health



### Reynoldsburg High School & **Eastland VEPD**

## Multi-Competency Health Technology

## Central Ohio Tech Prep Consortium

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
Tech or Business Algebra I		Tech or Business Geometry		Tech Comm 11	40	World Culture/	40
Applied Communications	200	Applied Comm. I		Anatomy & Physiology	40	Global Problems	
American History		Resource Management	150	American Culture/	40	Analytical Algebra IV	40
Applied Biology		Mechanical Science/		Government		Tech Comm 12	40
Personal Development	50	Tech Biology		Analytical Algebra III	40	Tech Chemistry	40
Word Processing	95	Adv Word Process/Computers	50	Tech Prep Lab	100-	*Tech Prep Lab	100- 150
Physical Education (1 sem)	50	Heath (1 sem)	50				
		Physical Education (1 sem)	50				
PREREQUISITES FOR GRADE 11 OF TECH PRE Demonstrate potential for college preparatory costandardized achievement test and by being enrocurriculum with no academic deficiencies for gr Word Processing.	1 OF TE ge preparend by be eficiencie	PREREQUISITES FOR GRADE 11 OF TECH PREP:  Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.	a > P	PREREQUISITES FOR COLLEGE PORTION OF TECH PREP: Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.	E PORTI ade Tech tory cou ne when	ON OF TECH PREP:  n Prep academic and technical rse work. Articulation or e students place into the progr	l ram.
SUGGESTED ELECTIVES: Foreign Language (Grades 9 & 10) Global Studies (Grade 10) Life Planning (Grade 10) Tech Prep Physics (Grade 12) Computer Literacy (Grades 9 & 10)	10)			EXPLANATION OF TECH PREP BLOCKS: 9th Grade: Students are in a 200-minute block of core curriculum. 10th Grade: Students are in a 150-minute block of core curriculum. 11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period). *12th Grade: Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.	P BLOCH 00-minu 150-min ational co duling al mpetenc impetenc	ts: te block of core curriculum. ute block of core curriculum. ompetencies taught in 100 - 1 lows instruction to dictate len ies developed through partici	50 gth of pation d/or

## HIGH SCHOOL EXIT OCCUPATIONS:

Nurse Assistant, Home Health Aide, and Ward Clerk.

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Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.

COLLEGE EXIT OCCUPATIONS:

### Central Ohio Tech Prep Consortium Curriculum Pathway Narrative

Reynoldsburg High School April 1996

Directions: Please complete this document to accompany the curriculum pathways

In the space below, briefly describe the systemic change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Systematic change at Reynoldsburg High School is reflected in the integration of personal development and resource management classes, mentorship, and core curriculum classes in a team setting. Change is also reflected in the eleventh and twelfth grade plan in which students will have the option of attending the high school Tech Prep program of their choice for one-half or full-day, attending the career center for the occupational portion of the program.

In the ninth grade, the Reynoldsburg High School Tech Prep plan combines six subjects (math, science, American history, communications, word processing, applications, and personal development) taught by a team of six teachers. The four core subjects will be delivered in a 200-minute block in the morning. Word Processing Applications and Personal Development, which are normally semester classes, will be offered in the afternoon following lunch on an alternating-day basis determined by which group the student is in – purple or gold. For example, period six purple would go to Word Processing Applications on Monday while period six gold would go to Personal Development. On Tuesday, the groups would switch classes, etc. All students receive 5 1/4 credits that include one math, one communications, one science, one American history, one-half word processing elective, and 3/4 personal development elective. Through the Personal Development class, students will have the opportunity to do job shadowing. The students also have two periods for electives or other freshman required courses in the afternoon. Projects will be introduced approximately once a month and will be "led" by one of the six team subjects. Each project will integrate from two to all six classes. One hundred eight ninth-grade students have selected the Tech Prep plan.

In the tenth-grade year, students have an opportunity to continue their Tech Prep studies in a 100-150-minute morning block of classes taught by a team of teachers. These classes include communications for one credit, math for one credit, computer applications for one-half credit, and resource management for 3/4 credit and are job focused. Again, computer applications and resource management meet on an alternating day basis. In the resource management class, students will study the process of finding a job, go through mock interviews, and will study how to budget their resources to enhance their personal life. Following lunch, students have the opportunity to take up to four electives or other sophomore required classes. Thematic projects will be introduced once every nine weeks.

Reynoldsbury High School Curriculum Pathway Narrative



The Reynoldsburg Tech Prep plan also incorporates the Inclusion program. Each team is provided with a resource teacher that modifies curriculum for any LD/DH students on the team. This teacher is also available in the classroom for any other students who have questions, thereby allowing more students to understand material presented, since there are two teachers available to help students rather than one.

At the junior and senior level, students will select a high school Tech Prep program to study based upon their career interests. Career clusters and applied academics are currently being developed in Business Technologies. We believe our program provides a seamless curriculum in which students can graduate prepared to enter a two-year, technical, or four-year post-secondary program.



Reynoldsbury High School Curriculum Pathway Narrative

## Multi-Competency Health Technology

## Central Ohio Tech Prep Consortium

Whitehall-Yearling High School &

**Eastland VEPD** 

9th Grade	Min	10th Grade	Min	11th Grade	Min	12th Grade	Min
Tech Prep Algebra I		Tech Prep Geometry		Tech Comm 11	40	World Culture/	40
(Algebra I A)		(Algebra I B)		Anatomy & Physiology	40	Global Problems	
Science/Biology	214	Science/Physical Science	170	American Culture/	40	Analytical Algebra IV	40
Comm, Business		Communications		Government		Tech Comm II	40
Technology/Drafting		Computer Applications		Analytical Algebra III	40	Tech Chemistry	40
Elective	20	Social Studies	20	Tech Prep Lab	100-	*Tech Prep Lab	100- 150
Elective	50	Elective	50				
Elective	50						
PREREQUISITES FOR GRADE 11 OF TECH PREP Demonstrate potential for college preparatory coustandardized achievement test and by being enrol curriculum with no academic deficiencies for graword Processing.	II OF IE ge prepa and by bi eficienci	PREREQUISITES FOR GRADE 11 OF TECH PREP:  Demonstrate potential for college preparatory course work as measured by a standardized achievement test and by being enrolled in a college preparatory curriculum with no academic deficiencies for grades 9 and 10, Algebra I, and Word Processing.	/ a ory and	PREREQUISITES FOR COLLEGE PORTION OF TECH PREP: Enrollment in 11th and 12th grade Tech Prep academic and technical course work or college preparatory course work. Articulation or proficiency testing will determine where students place into the program.	E PORTI ade Tech itory cou	ON OF TECH PREP:  n Prep academic and technical rse work. Articulation or e students place into the progr	am.
SUGGESTED ELECTIVES: Foreign Language (Grades 9 & 10) Tech Prep Physics (Grade 12) Computer Literacy (Grades 9 & 10)	10)	·		EXPLANATION OF TECH PREP BLOCKS: 11th Grade: Tech Prep occupational competencies taught in 100 - 150 minute lab (flexible block scheduling allows instruction to dictate length of lab period).	P BLOCk ational co	(S: ompetencies taught in 100 - 1 lows instruction to dictate len	so gth of
				*12th Grade: Occupational competencies developed through participation in school-based learning; worksite-based internships, mentorships; and/or enrollment in post-secondary options.	ompetenc site-basec ptions.	cies developed through partici d internships, mentorships; and	oation Vor

### Nurse Assistant, Home Health Aide, and Ward Clerk. HIGH SCHOOL EXIT OCCUPATIONS:

### COLLEGE EXIT OCCUPATIONS:

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic.



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### Central Ohio Tech Prep Consortium Curriculum Pathway Narrative

Whitehall-Yearling High School April 1996

Directions: Please complete this document to accompany the curriculum pathways.

In the space below, briefly describe the systemic change at the secondary level and what new options are now available for Tech Prep high school students (occupational, employability, and academic).

Whitehall-Yearling High School has chosen to create its own model of excellence using The Effective Schools Model as a springboard. A vast majority of our students graduate from the "general track" with no specific employability skills. Therefore, we are initiating Tech Prep, an interdisciplinary, project-oriented approach to learning, which will more effectively prepare graduates to enter the work force, college, or other post-secondary educational opportunities.

The Whitehall-Yearling Plan, during the ninth-grade block, will combine five subjects (communications, math, science, business, and technology) in a four-period time block. The block will be 214 minutes long and will be delivered in the first four periods of the day. Students will travel from the different rooms based on time schedules to be determined by the team of teachers. All students will receive four credits that include: 1 math, 1 communication, 1 science, 1/2 business, 1/2 technology. These students will then have a lunch period, followed by three additional periods for electives or other required courses. During the Tech Prep program each project will focus on a different academic area. One hundred ninth-grade students have been selected for the Tech Prep team.

The tenth grade block consisting of communications, science, math, and computer applications will enable students to continue their Tech Prep studies. That team of teachers will be selected before school is adjourned in June 1994. The tenth grade Tech Prep program will be based on four thematic units. At the junior and senior levels, students will be instructed by vocational instructors at the home school, at the career centers, or on the job. Career clusters and applied academics are currently being developed in engineering and technology. This constitutes our view of a seamless curriculum whereby students will graduate prepared to enter two-year, technical, or four-year post-secondary programs, or the world of work. We feel the Whitehall-Yearling Plan addresses the precepts of the common belief system as follows:

ALL STUDENTS CAN LEARN: The Whitehall-Yearling Plan addresses the needs of all students, especially those who learn best in a nontraditional environment. The removal of barriers posed by the traditional, 50 minute academic block will allow students to become more participatory in their learning. Students will see connections between academics and the world of work. Project-based learning will ensure applied academics and hands-on experiences. This plan will also more effectively allow for mainstreaming and inclusion of special needs students. Teachers will be seen and heard making decisions and discussing various strategies to enhance student success.

LEARNERS POSSESS MULTIPLE INTELLIGENCES: The Whitehall-Yearling Plan will be built upon the students' individual talents and strengths such as music, photography, speech, etc., to complete unit projects. In addition, a learning styles assessment known as CAPSOL will be administered during the summer 1994, after which teachers can more effectively create classrooms and activities which take into account various learning styles. At the junior/senior levels, students will be able to

Whitehall-Yearling High School Curriculum Pathway Narrative

Page 1



participate in career clusters which most appropriately match their individual aptitudes and interests. Teachers will be observed using five to seven instructional strategies during a unit of study.

PARTICIPATION IN A LEARNING COMMUNITY FOSTERS SOCIAL, CIVIC, EMOTIONAL, AND INTELLECTUAL GROWTH: Teachers working in interdisciplinary teams will help students see the connections between academic disciplines. The use of more hands-on projects, especially the culminating activities, will encourage students to learn to work and problem-solve in teams. Weekly Tech Prep assemblies of students and teachers will be held to increase communication. The Tech Prep team has already begun referring to the success of "our" kids for the next year. Community members, parents, and business partners will be involved in the assessment of those projects. As the students move into the tenth grade Tech Prep program, shadowing experiences, interest inventories, interning, use of the OCIS, review of the ICP, and exploration of the career clusters will be encouraged. Juniors and seniors will be involved in technical career clusters at off-site locations such as Mt. Carmel East Hospital, Columbus State Community College, AT & T, Limited Credit Services, EBCO, and the C. Ray Williams Early Child Development Center.

DIVERSE INSTRUCTIONAL STRATEGIES AND ENVIRONMENTS: The school day will certainly be different for the Tech Prep student. Class time will be based on learning needs rather than on the clock. Tech Prep teachers have already been given common planning time as well as an individual planning period. Alternative assessments such as portfolios, learning logs, and audio-visual projects will be used in conjunction with community assessors and displayed throughout the school. The SCANS report has been utilized to determine competencies needed in modern occupations and will be studies by students in applied classes.

SUPPORT SYSTEMS: Whitehall is fortunate to have acquired five computer labs for student use which will be an integral part of The Whitehall-Yearling Plan as the students learn keyboarding, editing, and desktop publishing skills. The Board of Education has allowed the high school to eliminate the general track and has encouraged our pursuit of the Tech Prep initiative. The BRIDGES grant acquired in 1990 has since been incorporated into the district budget, providing peer assisted learning tutors. Whitehall is also fortunate to have a broad base of support from local corporations and small businesses, led by its education partner, Limited Credit Services. Within a five-mile radius, lie Mt. Carmel East Hospital, AT & T, EBCO, DCSC, DFAS, and Port Columbus.



### HEART of OHIO TECH PREP CONSORTIUM 1996

Multi-Competency Health Technologies Model

PART I.B:
Postsecondary Curriculum
Pathways & Narratives

**Columbus State Community College** 



Post-Secondary Path for Multi-Competence Health Technology Columbus State Community College

Central Ohio Tech Prep Consortium

1st Quarter	ئ	2nd Ottarter	ċ	3rd Ouarter	ċ	Ath Ousdor	5	Ath Output	ċ	244 0 445	į
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Med I erminology	CAI	Nurse Aide Training	æ	CPR	+	Philabellomy	9	Current Issues:	↔	Business	က
		Krogram						HIV-Infection	_	Communication	
(MULT 101)		(MULT 120)		(MULT 102)		(NAULT HIS)		(MULT 171)		(ENGL 200)	
Beginning Algebra	4	Computer-Literacy-I	ო	Patient Care Skills 1	4	Phlebotomy Practicum II	+	Speech	3	Nutrition	2
(MATH 103)		(CPT 101)	_	(MULT 126)		(MULT 114)		(COMM 105)		(HOSP 153)	
	5	Anatomy,	5	Gen & Bio. Chemistry	2			Waived Tests for	3	Point of Care	-
Physiology Pathology I		Physiology Pathology II				(01 101 102		Health Care		Testing	
60000		i (Sooms)				103, 104)	2	Sippinoil			
(BIO 121)		(BIO 122)		(CHEM 113)				(MULT 123)		(MULT 153)	
Beginning Comp.	က	Essay and	က	Humanities	2	Professionalism	2	Info. Processing	5	Patient Care Skills	4
		Kesearch			_	tor Health Care		Assistant		Rehab	
				(HUM 111 or 112, or 113 or 151 or 152)		Providers					
(ENGL 101)		(ENGL 102)				(MULT 180)		(MULT 125)		(MULT 129)	
to Health	3	Computer Literacy	3	Values and Attitudes	-	Pharmacology	က	Social	3	I.D. Card. Rhythms	2
Care								Gerontology			
(MLT100)		(MCT.106)		(MHMR 123)		(RESP 150)		(GER 101)		(MULT 112)	
Advanced Med:	3	Personal Health	33.		÷	Intro to	<u>Σ</u> ξ	Twelve Lead	2		
Terminology				Codings		Ambulatory Coding		EKG			
(HIMT 121)	C.	(MULT, 174)		.,~~		(MULT-184)		(MULT 108)			
		Intro to Human Animal Interaction	N	sction)	22		4	Intro to Third W	-		
		(MULT 181)		(MULT 185) FTX III		(GER 103)		WULT185)			
	1										

Struckout courses (with straight line) - Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their Tech Prep plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 15, MULT 122, MULT 126, MULT 126, MULT 172; (2) additional options: MULT 174, MULT 181, MULT 183, MULT 185, MULT 190, GER 103. Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to

Shaded courses = advanced skills options added to the curriculum.
\*Placement into ENGL 111 and ENGL 101 or ENGL 102, ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200, COMM 110 Conference and Group Discussion may be substituted for COMM 105.

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### EMT-Paramedic Major

Post-Secondary Path for Multi-Competence Health Technology Central Ohio Tech Prep Consortium Columbus State Community College

/† 7 Personal Health Referral Strategies 5. 1 for Chronically III A Animal Interaction Hospital Clinical IV Current Issues HIV MATCHALLES STAINS ALIVINATOR CLAMS Field Clinical IV 7th Quarter (ALL'TAUL) HUULT-112K) (Carlet TAPY) (EAIS 214) EMT-P-IV (EASS 284) (EASS 294) Infection 44444444 Þ wh D) EMT-Intermediate Waiver Test for Health /ग्राष्ट्रिक्टिंत्रम<del>ेड्र पिर्वे</del>तार्व्यक्ते । /*द्रावटाच्टार ११८)* Nurses Aid Training 146612 HEESTH 14166 6th Quarter Field Clinical III Hospital Clinical Business Comm. (ENICE 200) (OTI LINK) (611111111)) (LELYALIZA) /**#**WIEB66A44 EMT-P-II (EASS 213) (EASS 293) (EMS 283) Program ~ Hospital Clinical II 5th Quarter Bio and Physical Field Clinical II Sci Elective (EAIS 292) (ENS 212) (ENIS 282) EMT-P-II (BIO xxx) ~ **Health Care Providers** (SSC1 101 or 102 or Professionalism for Hospital Clinical I 4th Quarter Field Climical 1 (AIULT 180) 103 or 104) (EMS 281) EMT-P-I ÷, ڻ S Values and Attitudes (HUM 111 or 112 or 113 or 151 or 152) 3rd Quarter Microbiology MHCR 113) COMMI 105) COLT 102) Humanities (BIO 115) General Speech ð S **~** Anatomy, Physiology 2nd Quarter Essay & Research and Pathology Responding to Emergendies EMT - Basic (ENGL 102) (KOLTJUM) (EMS 110) (BIO 122) ರ Advanced Medical Terminology ( ) Beginning Algebra II Medical Terminology Anatomy, Physiology Beginning Algebra 1st Ouarter MATH 103) and Pathology Composition COL 11711 CHOT TUNE (ENGT 101) HIMT 121) Beginning (121)

Struckout courses (with straight line) - Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with 1) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 elective curriculum graded skills courses to complete their college Tech Prep plan of study. (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 109, 123, 125, 131, 153, 174, 181, 183, 184, 185, 190, EMS 111, MCT 106, MHCR 113.

Shaded courses = advanced skills options added to the curriculum.

\*Placement into ENGL 111 or ENGL 101 and ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 conference and Group Discussion.

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Reimbursement

Computer Liferacy 2 II.

MCT 106)

Rehab. (PT. Aide)

Rehab. (PT. Aide)

Machine Operator

Machine Operator

Machine Operator

Machine Operator

OMULT 129)\*\*\*

Coding 2 2

Point of Care Testing

Care Providers 17 25

may be substituted for COMM 105

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### Histology Major

# Columbus State Community College Post-Secondary Path for Multi-Competence Health Technology Central Ohio Tech Prep Consortium

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	7th Quarter	Histology Seminar II	(AIULT 166)	Histology Clinical	Experience II (AIULT 168)																			
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	6th Quarter	Chemisty of Stains II	(AIULT 162)	Basic Histology	Techniques II (AIULT 164)	Histology Seminar II		(AIULT 165)		Experience I (AfULT 167)	Business Comm.	(ENGL 200)												
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nsoruum	5th Quarter	Tissue ID	(AIULT 160)	Chemistry of Stains	(AIULT 161)	Basic Histology		(A1ULT 163)	Computer Literacy II.	(MCT 106)														
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Central Onio Tech Prep Consortium	4th Quarter	/ Phubboloing	/ (WUMH 115)	/ philobolishis	/ prioticum !! / ////////////////////////////////	Nurse Aide	Training Program	(MULT 120)	/ 116h/d/146hh/d/u6	/ PAUNIT ARRY		Care (MULT 100)		(SSCI 101, 102, 103, 104)	Professionalism for	Health Care	Providers	1	Twelve Lead EKO	ID Cardiac Rhydum				
	اد	+	Ì	2		3			٧		33	Š.												
niiao 🤃	3rd Quarter	CPR	(MULT 102)	Elementary	CHEM III)	Speech		(CONINI 105)	Humanities	(HUM 111 or 112, or 113 or 151 or 152)	Personal Health	(MULT. 174)												
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	2nd Quarter	<del>Responding to</del> <del>Emergencies</del>	(AULT 103)	/ <b>#</b> 446444Cdab/skilld/1	(ANUALI 116)	Current Issues 111V	Infections	(MULT 171)	/msinubide/Hrv/Alt5/8	(GALLITH 133)/	Essay and Research	(ENGL 102)		& Pathology II (BIO 122)	*Information	Processing Assisting		WOLLIAL STATE	Referral Strategies for AChronically III Clients	Intro to Human 25.75 Milmal Interaction 3	Coding President (1)	Intro to Ambulatory	Intro to Third Party F. Reimbursement (2)	Radiation Protection Fr. for General Machine 35 Operators (1982)
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	Ist Quarter	Med. Terminelogy	(MULT 101)	Beginning Algebra	(MATH 102)	Anatomy, Physiology	Pathology I	(810 121)	Beginning Comp.	(ENGL 101)	Advanced Med 6	(HIMT 121)	Beginning Algebra II h	THE STATE OF THE PARTY OF THE P	Patient Care Skills 4,684	Rehabilitation # 725	Man Control	Sept of the section o						

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Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 122, MULT 172; (2) additional options. MULT 108, 112, 131, 180, 181, 183, 184, 185, 190
Shade courses = advanced skills options added to the curriculum
\*Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105.



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### **HIGH SCHOOL EXIT OCCUPATIONS:**

Nurse Assistant Home Health Aide Ward Clerk

### **COLLEGE EXIT OCCUPATIONS:**

EKG Technician
EMT/Paramedic
Medical Transcriptionist
Multi-Competent Health Technician
Patient Care Technician
Nurse Aide
Phlebotomy Technician
Home Care Manager
Home Health Aide
Histologic Technician

### PREREQUISITES FOR COLLEGE PORTION OF TECH-PREP:

Placement tests and successful completion of Junior and Senior Year Academic Courses, and Junior Year Core Curriculum Pathway.

### ADVANCED SKILLS PORTION OF TECH-PREP:

Shaded courses represent advanced skills courses.

ADVANCED SKILLS PORTION OF TECH-PREP FOR EMT-PARAMEDIC MAJOR Shaded courses = Placement into ENGL 111 or ENGL 101 and ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

### EXPLANATION OF TECH-PREP COURSES DIFFERENCES FOR EMT-PARAMEDIC MAJOR

**Struckout courses (with straight line)** - Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 109, 123, 125, 131, 153, 174, 181, 183, 184, 185, 190, EMS 111, MCT 106, MHCR 113.



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### ADVANCED SKILLS PORTION OF TECH-PREP FOR HISTOLOGY MAJOR

Shaded courses = Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

### EXPLANATION OF TECH-PREP COURSES DIFFERENCES HISTOLOGY MAJOR

**Struckout courses (with straight line)** = Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 108, 112, 125, 131, 180, 181, 183, 184, 185, 190.

ADVANCED SKILLS PORTION OF TECH-PREP FOR PATIENT CARE MAJOR Shaded courses = Placement into ENGL 111 and ENGL 101 or ENGL 102; ENGL 204 Technical Writing or ENGL 210 Creative Writing may be substituted for ENGL 200; COMM 110 Conference and Group Discussion may be substituted for COMM 105

### EXPLANATION OF TECH-PREP COURSES DIFFERENCES PATIENT CARE MAJOR

**Struckout courses (with straight line)** = Grade II Core courses. No college credit is awarded. Students will take the following college advanced skills courses as part of their plan of study: MATH 103, MCT 106, HIMT 121, MULT 129 or MULT 174, MULT 172 or another advanced skills course.

Struckout courses (with /) - Grade 12 elective curriculum options. No college credit is awarded. Students who successfully complete Grade 12 options that are equivalent to Columbus State courses will select from the following advanced skills courses to complete their college Tech Prep plan of study: (1) if not taken in Grade 12: MULT 114, MULT 115, MULT 122, MULT 126, MULT 172; (2) additional options: MULT 174, MULT 181, MULT 183, MULT 184, MULT 185, MULT 190, GER 103.



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### **Curriculum Pathway Narrative**

### Columbus State Community College Multi-Competency Health Technology (MULT)

The systematic change that will occur in the Multi-Competency Health Technology as a result of the installation of Tech-Prep pathways in the Central Ohio Consortium include the following:

- O Additional breadth and depth competencies will be possible at the post-secondary level as a result of students coming to Columbus State better prepared to do college level work. This will help ensure that the health care industry's expectations for quality multi-skilled personnel are being met by freeing up time to cover additional competencies that are being requested by employers in the following areas:
  - Interpersonal Communication Skills
  - Computer Skills
  - Advanced Medical Terminology Skills
  - Mathematics
  - Overview of Medical Coding and Reimbursement
  - Therapeutic Activities
  - Personal Health
- O In the past these additional competencies were either not addressed or addressed through the students selection of electives and additional courses. With these competencies now being specifically added to the curriculum, graduates will be broadly educated across disciplines as developing several entry level competencies. Graduation from this program will enhance the graduate's ability to gain employment and be job ready in the rapidly changing health care environment. These multiskilled graduates should also assist the health care industry in their personnel reengineering and cost containment efforts.

Articulation agreement between specific VEPD Tech Prep Programs, and Columbus State Community College Multi-Competency Health Technology Program will be formalized on an individual VEPD basis, as the vocational articulation agreements are currently done. The Tech-Prep agreements will be in addition to, and not in lieu of, existing vocational program agreements.

Our Multi-Competency Health Technology program is regularly validated through ongoing surveys, focus groups, and health care industry advisory committees. White the college is confident the Multi-Competency Health Technology Program currently meets the health care industry needs, the faculty and administration of Columbus State acknowledge that some foundational competencies can be



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delivered within a collaboratively developed secondary curriculum. The development of the Tech-Prep curriculum provides students with an unique opportunity to augment a solid associate degree curriculum with valuable courses and educational experiences that are not currently included in the standard degree program. Students will benefit from additional depth and breadth offered by the advanced skills associate degree program with course duplication.

The Tech-Prep program is designed to support a high quality, seamless Multi-Competency Health Program. Due to the number of eligible candidates waiting to enter some of the other health care programs, the college cannot guarantee direct passage from high school course work to technical course work at the college.



### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

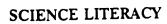
PART II.A: Secondary Technical Competencies (Unleveled)



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### ACADEMIC COMPETENCIES:

Academic Expectations:	All students will be enrolled in the following course sequen	ıce:
JUNIOR YEAR	Communications (Eng 100) (competencies target preparties students to place into English 111  Analytical Algebra III (Math 103 and 104)  Social Studies (American Culture/Government)  Biology (competencies identified for Bio 101 - Anaton Physiology) - Students are also expected to demon competencies identified for Bio 100 before competing this program  Sign Language - OPTIONAL	my &
SENIOR YEAR	Communications (competencies target preparing stude place into English 111)  Analytical Algebra IV (Math 104) (competency based of work preparing students to place into Math 148)  Social Studies (World Culture/Global Problems)  Chemistry (competencies identified for Chem 100)  Sign Language - OPTIONAL	course
COMMUNICATI	ONS LITERACY	
Effective S Effective S Effective S	Reading Skills Speaking and Presentation Skills Writing Skills Listening Skills iewing/Graphic/Observation Skills	1 2 4 5 5
MATHEMATICS	<b>3</b>	
Data Ana Technical	and Number Relations lysis and Probability	6 10 12 13 13



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Biology/Anatomy/Physiology	10



### SOCIAL/CULTURAL LITERACY

Growth of Social, Political, and Economic Institutions Human Diversity and Historical/Current Issues Analyzing Information	35 38 39
COMPUTER LITERACY	43
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### VOCATIONAL TECHNICAL COMPETENCIES:

### **COMMON CORE**

Core competencies will be required of all students.

Medical Terminology	47
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Assessment:	77
Nurse Aide Training Program	
Assessment:	98

### **ELECTIVES**

All students will select three (3) areas of concentration plus one (1) quarter of independent study with a career focus; participate in a mentorship/internship at a worksite; or enroll in related post-secondary technical coursework.

Diagnostic Procedures	99
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Laboratory Procedures	105
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Human Development	148
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Surgical Technology	



### COMMUNICATIONS LITERACY (Eng 100)

### Effective Reading Skills

1.01.01.00	Differentiate between fact, opinion, and inference
1.01.03.00	Recognize the intent and use of propaganda
1.01.04.00	Identify and summarize ideas, information, and events that are explicitly stated in written material
1.01.05.00	Explain the sequence of time, places, events, and ideas
1.01.06.00	Identify and explain the main and subordinate ideas (stated or implied) in a written work
1.01.06.01	Differentiate between details that support or do not support main ideas in a written work
1.01.08.00	Find, understand. and apply information from a variety of sources (books, manuals, newspapers, periodicals, directories, referenceworks, computer printouts, and electronic sources)
1.01.09.00	Use the features of books and reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, and bibliography
1.01.10.00	Define and use unfamiliar words and specialized vocabulary (including abbreviations, acronyms, concepts, and jargon) by using structural analysis, decoding. contextual cues, dictionaries, and computers
1.01.11.00	Read and understand short notes, memos, letters, and forms
1.01.12.00	Read and follow complex directions



Communications	
1.01.13.00	Determine the author's purpose
1.01.14.00	Read, evaluate, and respond critically to various literature forms, genres, and printed medias
1.01.15.00	Recognize and interpret organizational patterns of writing (e.g., cause and effect, comparison and contrast, and simple listing)
1.01.16.00	Identify the structural elements of literature (e.g., plot, theme, character, mood, setting, and point of view)
1.01.17.00	Identify literary devices (e.g., metaphor, foreshadowing, flashback, allusion, satire, and irony)
1.01.19.00	Take accurate notes from written sources
1.01.20.00	Recognize, analyze, and discuss the rhetorical strategies and writing techniques used in various student and professional writings
1.01.21.00	Summarize or paraphrase a written selection to confirm one's own understanding of what was read
1.01.22.00	Understand and use appropriate techniques for taking different types of tests
Effective Speaking	and Presentation Skills
1.02.01.00	Give oral directions and clear explanations
1.02.02.00	Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals



Communications	
1.02.03.00	Demonstrate correct usage of vocabulary
1.02.05.00	Speak effectively using non-verbal communication such as eye contact, posture, and gestures
1.02.06.00	Select topics suitable to audience, situation, and purpose
1.02.08.00	Give formal and informal talks and speeches
1.02.08.01	Explain and demonstrate the basic elements of public speaking
1.02.08.02	Present speeches using an extemporaneous delivery style, with minimal use of note cards or text, maximum eye contact, appropriate voice intonations and body language, and minimal verbal mannerisms
1.02.09.00	Demonstrate the differences between informing and persuading and use the appropriate techniques of content and delivery for each purpose
1.02.09.01	Present an informative speech by limiting the scope of the topic and selecting a workable pattern of organization with an effective beginning and ending
1.02.09.02	Present a persuasive speech that will demonstrate the student's awareness of and sensitivity to the audience through the use of appropriate language and audience data
1.02.10.00	Use visual media
1.02.11.00	Demonstrate proper telephone etiquette



### Effective Writing Skills

1.03.01.00	Demonstrate ability to use different forms of writing (e.g., literary response, business and technical communicative modes, personal responses, journals, research and recording)
1.03.01.01	Demonstrate understanding of good letter writing principles
1.03.02.00	Demonstrate appropriate selection of mode, purpose, audience, point of view, and organization of information in written assignments
1.03.02.01	Produce a completed narrative essay
1.03.02.02	Produce a completed descriptive/observational essay
1.03.02.03	Produce a completed informational paper
1.03.02.04	Produce a completed persuasive essay
1.03.03.00	Demonstrate proficiency in word processing, graphics, and/or desktop publishing aids for writing
1.03.04.00	Apply writing process techniques: 1) Prewriting 2) Drafting 3) Revising 4) Editing/proofreading 5) Publishing
1.03.04.01	Use journal writing as a pre-writing and learning tool
1.03.04.02	Revise and accurately edit both their own and other's written work
1.03.07.00	Create written summaries of information
1.03.08.00	Use appropriate techniques for documentation of sources



### Effective Listening Skills

1.04.01.00	Follow spoken directions
1.04.02.00	Distinguish between fact and opinion
1.04.03.00	Make inferences and draw conclusions from verbal and non-verbal messages
1.04.04.00	Identify and comprehend the main and subordinate ideas in lecture and discussions, questions to clarify information heard, and report accurately what others have said
1.04.05.00	Restate or paraphrase a conversation to confirm one's own understanding of what was said
1.04.06.00	Take accurate notes which summarize material presented from spoken conversations, including telephone messages
1.04.08.00	Critique speeches and other verbal presentations
Critical Viewing/C	Graphic/Observation Skills
1.05.01.00	Read and understand graphs, charts, and tables to obtain factual information
1.05.02.00	Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas
1.05.03.00	Critically view historical or contemporary events, via TV or video tape, and make appropriate observations
1.05.05.00	Communicate through use of video tape and computer presentations



### MATHEMATICS (Math 104)

### <u>Algebra</u>

3.01.01.00	Solve linear equations
3.01.01.01	Combine like terms
3.01.01.02	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
3.01.01.03	Solve equations in one variable utilizing one operation
3.01.01.04	Solve equations in one variable utilizing two or more operations
3.01.01.05	Describe and use the logic of equivalence in working with equations, inequalities, and functions
3.01.01.06	Identify variables, constants, terms, expressions, and coefficients
3.01.01.07	Define absolute value
3.01.01.08	Evaluate algebraic expressions
3.01.01.09	Solve the literal equation or formula for a specified variable
3.01.01.10	Recognize the properties of equalities
3.01.01.11	Solve a 2x2 system of linear equations by elimination
3.01.01.12	Solve a 2x2 system of linear equations by substitution
3.01.01.13	Apply the rules for solving linear equations in one variable
3.01.01.14	Use formulas
3.01.01.15	Use handheld graphic calculators to solve linear equations and graph simple functions
3.01.01.16	Solve linear equations in one variable containing an absolute value symbol



Mathematics	

3.01.02.00	Use properties of exponents
3.01.02.01	Define exponent
3.01.02.02	Compare and compute using scientific notation
3.01.02.03	Determine values for the square root of any natural number
3.01.02.04	Determine the principal square root and recognize square roots of negatives as being non-real
3.01.02.05	Divide terms having factors with exponents
3.01.02.06	Multiply and divide polynomial expressions
3.01.02.07	Operate with radicals and leave the result in simplified form
3.01.02.08	Apply the properties of exponents to simplify polynomial expressions
3.01.02.09	Multiply terms having factors with exponents
3.01.02.10	Solve radical equations
3.01.03.00	Factor a polynomial of two or more terms
3.01.03.01	Apply the distributive law in removing common factors
3.01.03.02	Factor difference of two squares
3.01.03.03	Factor quadratic trinomials
3.01.04.00	Solve linear inequalities and show the solution on a number line
3.01.04.01	Combine like terms
3.01.04.02	Use the Substitution Property to evaluate expressions and formulas
3.01.04.03	Evaluate algebraic expressions
3.01.04.04	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions



Mathematics 3.01.04.05	Identify variables, constants, terms, expressions, and coefficients
3.01.04.06	Solve equations in one variable utilizing two or more operations
3.01.04.07	Describe and use the logic of equivalence in working with equations, inequalities, and functions
3.01.04.08	Solve a linear inequality in one variable using two or more operations
3.01.04.09	Define absolute value
3.01.04.10	Solve problems involving statements of inequality
3.01.04.11	Use interval notation to describe inequalities on a number line
3.01.04.12	Define and describe the union and intersection of intervals
3.01.04.13	Graph inequalities in two variables
3.01.05.00	Recognize, relate, and use the equivalent ideas of zeros of a function, roots of an equation, and solutions of an equation in terms of graphical and symbolic representations
3.01.05.01	Apply the distributive law in removing common factors
3.01.05.02	Factor the difference of two squares
3.01.05.03	Factor quadratic trinomials
3.01.05.04	Combine like terms
3.01.05.05	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
3.01.05.06	Solve equation in one variable utilizing one operation
3.01.05.07	Solve equations in one variable utilizing two or more operations
3.01.05.08	Describe and use the logic of equivalence in working with equations, inequalities, and functions
	moquanios, and recovers
3.01.05.09	Identify variables. constants. terms, expressions, and coefficients



Mathematics 3.01.05.10	Explore and describe characterizing features of functions
3.01.05.11	Find X and Y intercepts of a line
3.01.05.12	Decide whether or not a relation is a function. Use function notation. Find domains and ranges
3.01.05.13	Use set notation to describe and discuss domain and range of a function
3.01.05.14	Factor perfect square trinomials
3.01.06.00	Graph equations
3.01.06.01	Develop graphical techniques of solution for problem situations involving functions
3.01.06.02	Explore and describe characterizing features of functions
3.01.06.03	Describe problem situations by using and relating numerical, symbolic, and graphical representations
3.01.06.04	Use the language and notation of functions in symbolic and graphing settings
3.01.06.05	Find X and Y intercepts of a line
3.01.06.06	Write equations for a line
3.01.06.07	Use a graphing calculator or computer to generate the graph of a function
3.01.06.08	Graph a linear equation using the slope-intercept method
3.01.06.09	Translate among tables, algebraic expressions, and graphs of functions
3.01.06.10	Estimate shape of graphs of various functions and algebraic expressions
3.01.06.11	Use handheld graphic calculators to solve linear equations and graph simple functions
3.01.06.12	Graph basic functions using the Cartesian coordinate system



3.01.06.13	Derive the equation of a line given two points of the line, one point and the slope, or slope and Y intercept
3.01.07.00	Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form
3.01.08.00	Determine slope, midpoint, and distance
3.01.08.01	Solve problems related to sets of points on a Cartesian coordinate system
3.01.08.02	Calculate the slope of a line using the coordinates of two points of the line or a graph of the line
3.01.09.00	Model real-world phenomena with polynomial and exponential functions
3.01.09.01	Use curve fitting to predict from data
3.01.09.02	Graph exponential functions which model real world statistics (e.g., population growth, radioactive decay)
Geometry	
3.02.01.00	Find perimeters, surface areas and volumes of geometric figures
3.02.01.01	Recognize and classify two-and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism)
3.02.01.02	Create and interpret drawings of three-dimensional objects
3.02.01.03	Classify, label, and describe polygons and solids
3.02.01.05	Use handheld graphic calculators to solve area and volume problems
3.02.01.06	Given the dimensions of various geometric shapes common to the technological industries, determine areas and volumes in English and metric units



Mathematics	
3.02.01.07	Estimate the area of irregular plane figures
3.02.01.09	Convert between radians and degrees
3.02.03.00	Recognize, classify, and use properties of lines and angles
3.02.03.01	Demonstrate an understanding of angles and parallel and perpendicular lines
3.02.03.02	Define terms related to angles
3.02.03.04	Demonstrate an understanding of special angles
3.02.03.05	Understand the various units of measure of angles
3.02.03.06	Identify points, lines. and planes
3.02.03.07	Use the concept of betweeness
3.02.03.08	Measure angles correctly
3.02.03.09	Convert between radians and degrees
3.02.04.00	Describe and apply the properties of similar and/or congruent figures
3.02.04.01	Be able to make scale drawings
3.02.05.00	Solve right triangle problems
3.02.05.01	Apply the Pythagorean Theorem
3.02.05.02	Identify basic functions of sine, cosine and tangent
3.02.05.03	Compute and solve problems using basic trigonometric functions
3.02.06.00	Demonstrate inductive and deductive reasoning through application to various subject areas
3.02.06.01	Demonstrate an understanding of and ability to use proof



Mathematics

# Numbers and Number Relations

3.03.01.00	Estimate answers, compute, and solve problems involving real numbers
3.03.01.01	Round off decimals to one or more places
3.03.01.02	Round and/or truncate numbers to designated place value
3.03.01.03	Round off single and multiple digit whole numbers
3.03.01.04	Estimate measurements
3.03.01.05	Use mental computation when computer and calculator are inappropriate
3.03.01.06	Find the least common denominator of two fractions
3.03.02.00	Compare and contrast the real number system, the rational number system, and the whole number system
3.03.03.00	Determine if a solution to a mathematical problem is reasonable (estimate)
3.03.04.00	Select and compute using appropriate units of measure
3.03.04.01	Convert, compare, and compute with common units of measurement within and/or across measurement systems
3.03.04.02	Use and convert between measurements in the Apothecaries' System of Measurement
3.03.04.03	Use the correct notations from the Apothecaries' System of Measurement



#### Mathematics

### Data Analysis and Probability

3.04.01.00	Collect and organize data into tables, charts, and graphs
3.04.01.01	Take a random sample from a population
3.04.03.00	Understand and apply measures of central tendency, variability, and correlation
3.04.03.01	Compute and interpret means (averages)
3.04.03.02	Compute and interpret median and/or mode
3.04.03.03	Understand what a normal distribution is
3.04.03.04	Understand what a uniform distribution is

### Technical Algebra

3.05.01.00	Evaluate and graph functions using rectangular coordinates
3.05.01.01	Graph inequalities in two variables
3.05.02.00	Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods
3.05.02.01	Solve systems of linear equations with up to 3 variables
3.05.02.02	Solve a 2x2 system of linear equations using matrices
3.05.03.00	Understand the complex number system and exhibit facility with its operation
3.05.03.01	Solve problems having complex solutions
3.05.03.02	Examine complex numbers as zeros of a function



Mathematics	
3.05.03.08	Add, subtract, multiply and divide complex numbers in rectangular form
3.05.04.00	Analyze exponential functions
3.05.04.02	Do calculations involving exponential expressions and functions
3.05.04.04	Graph exponential functions
3.05.04.06	Use graphing calculators to generate tables to plot exponential curves
3.05.05.00	Simplify and solve quadratic equations
3.05.05.01	Simplify algebraic expressions, multiply and divide polynomials, and solve quadratic equations
3.05.05.02	Solve a quadratic equation by factoring, by completing the square, and by using the quadratic formula
3.05.05.03	Calculate the discriminant of a quadratic equation
3.05.05.04	Put a quadratic equation in standard form and identify a, b, and c
3.05.05.05	Draw conclusions about the solutions of a quadratic equation based upon the value of the discriminant
3.05.05.06	Use a handheld graphic calculator to find the real solutions of a quadratic function to within stated limits of accuracy
3.05.06.00	Analyze rational functions
3.05.06.01	Simplify rational expressions
3.05.06.02	Find the least common denominator of two rational expressions
3.05.06.03	Add, subtract, multiply and divide rational expressions
3.05.06.04	Solve rational equations
3.05.06.05	Identify and describe domain and range of rational functions



#### Mathematics

3.05.06.06 Define asymptote

3.05.06.07 Identify and describe the asymptotes of a rational function and recognize their significance

3.05.06.08 Graph rational functions using a handheld graphic calculator

Use a handheld graphic calculator to find any intercepts of a rational function to within stated limits of accuracy

### Technical Trigonometry

3.06.02.00	Recognize and identify graphs of the trigonometric functions
3.06.02.01	Recognize and graph basic trig curves



### SCIENCE LITERACY

Chemistry (Chem 100)	
4.01.01.00	Explore atomic theory and present findings using various representational formats.
4.01.01.01	Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic
4.01.01.02	Relate the concept of periodicity to atomic properties and the periodic table of elements
4.01.01.03	Describe charge and ionic compounds in the context of electrochemical theories
4.01.01.04	Recognize that the atomic model is only a model and, like any model, is subject to change
4.01.01.05	State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models
4.01.01.06	Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations
4.01.01.07	Describe characteristics of ionic compounds
4.01.01.08	Describe characteristics of covalent compounds
4.01.01.09	Use a periodic table to predict the type of bonding which should occur between elements
4.01.01.10	Recognize and identify chemical symbols
4.01.01.11	Identify atomic numbers, atomic mass and general atomic structure based upon the periodic table
4.01.01.12	Prepare orbital notation for elements from the periodic table
4.01.01.13	Identify and explain phases of matter
4.01.02.00	Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy



Science Literacy	
4.01.02.01	State a scheme of matter which includes elements, compounds, and mixtures
4.01.02.02	Relate a chemical equation to the concept of chemical change
4.01.02.03	Classify matter according to properties and composition
4.01.02.04	Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature
4.01.02.05	Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge
4.01.02.06	Describe properties of carbon and organic molecules
4.01.02.07	State the laws of chemical combinations (conservation of mass, definite composition, multiple proportions)
4.01.02.08	List assumptions of the kinetic theory of matter
4.01.02.10	Manipulate data in problem solving, including: mole problems, concentration problems, gas law problems, atomic/molecular structure problems and equation balancing
4.01.02.11	Discuss the concept of mole
4.01.02.12	State the properties of gases and the laws that apply to gases
4.01.02.13	Identify applications of Avogadro's hypothesis such as Avogadro's number, molar volume, and gram molecular weight/molar mass
4.01.02.14	Use the kinetic molecular theory to explain states of matter, rates of reaction, and chemical equilibrium
4.01.02.15	Manipulate stoichiometric relationships
4.01.02.16	Correctly write formulas and name chemical compounds
4.01.02.17	Properly balance basic chemical equations
4.01.02.18	Predict oxidation members from the periodic table and compounds



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Science Literacy	
4.01.02.19	Use electronegativity to predict reactions
4.01.03.00	Demonstrate basic chemistry laboratory techniques and procedures to include equipment and safety precautions
4.01.03.01	Identify and use basic laboratory equipment
4.01.03.02	Demonstrate a basic ability to measure liquids and solids in the laboratory
4.01.03.03	Recognize basic safety techniques for chemistry laboratory
Biology/Anatomy/P (Bio 100. Bio 101)	hysiology
4.02.01.00	Using models and explorations, examine cellular components and their relationships
4.02.01.01	Describe the cell theory; structure and function
4.02.01.02	Describe the role of nucleic acids in cell functions and heredity
4.02.01.03	Describe the events of mitosis and meiosis
4.02.01.05	List causes and effects of gene mutations and chromosomal aberrations
4.02.01.06	Describe current advances in genetic engineering and possible applications in agriculture and medicine
4.02.02.00	Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms
4.02.02.01	List characteristics of living organisms
4.02.02.02	Classify common organisms by observable characteristics
4.02.02.03	Describe how living organisms are classified
4.02.02.04	List characteristics of organisms in each kingdom
4.02.02.05	Explain the difference between viruses and bacteria



Science Literacy	
4.02.03.00	Formulate and understanding of the relationship about organisms, their physical surroundings and their change processes
4.02.03.01	Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem
4.02.03.02	Define natural selection and list evidence for its existence
4.02.03.03	Discuss the development of Darwin's theory of evolution
4.02.03.04	Discuss hypotheses of the origin of life
4.02.03.06	Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification
4.02.03.07	Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms
4.02.03.08	Describe how human activities interfere with biological diversity
4.02.04.00	Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition
4.02.04.01	Explain the relationship between microorganisms and disease
4.02.04.02	Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
4.02.04.03	Distinguish between myths and realities of the HIV virus and AIDS
4.02.04.04	Explain the relationship between anatomical structure and function
4.02.04.05	Identify structures in human physiology



Science Literacy	
4.02.05.00	Recognizing the organization of living organisms
4.02.05.01	Differentiate science from nonscience by listing characteristics of science
4.02.05.02	Compare the characteristics of science to beliefs, philosophy, superstition, costumes, and religion
4.02.05.03	Define biology
4.02.05.04	Discuss the scientific method
4.02.05.05	List the levels of organization from atom, macromolecule, cell, tissue, organ, organ system, organism, species, genus
4.02.06.00	Identify cellular components and their relationships
4.02.06.01	Differentiate an autotroph from a heterotroph
4.02.06.02	Differentiate a prokaryote form a eukaryote
4.02.06.03	Differentiate a cell membrane from a cell wall
4.02.06.04	Explain the current theory of cell membrane structure-the fluid mosaic model
4.02.06.05	Differentiate between passive transport and active transport
4.02.06.06	Discuss the processes of diffusion, osmosis, active transport, facilitated diffusion, exocytosis, and endocytosis
4.02.06.07	Identify a specific function of the nucleus, nucleolus, mitochondria, ribosomes, endoplasmic reticulum, golgi body, lysosome, centrioles, cilia, microtubules, and vacuole
4.02.06.08	Identify the elements which compose the majority of living matter - C,H,N,O,P,S
4.02.06.09	Differentiate an atom from an ion
4.02.06.10	List the chemical symbols for the following compounds - water, carbon dioxide, ammonia, glycerol, fatty acid, glucose, and an amino acid



Science Literacy 4.02.06.11	Differentiate water soluble compounds from lipid soluble compounds and give examples
4.02.06.12	Define the terms monomer and polymer
4.02.06.13	Name the component molecules of maltose, starch, protein and triglyceride
4.02.06.14	List the component molecules of a nucleotide
4.02.06.15	Compare the advantages of unicellularity versus multicellularity
4.02.06.16	State that DNA is common to all living organisms on earth
4.02.06.17	Compare the commonality of enzymes
4.02.07.00	Formulate an understanding of the physical structures and chemical processes occurring within the cell
4.02.07.01	Differentiate photosynthesis from chemosynthesis
4.02.07.02	Summarize briefly the process of photosynthesis by correlating the cell organelles involved, the starting energy, the end products of carbon fixation, and its significance
4.02.07.03	Define digestion
4.02.07.04	Differentiate aerobic from anaerobic metabolism
4.02.07.05	Summarize glycolysis by correlating the starting compound and end products
4.02.07.06	Differentiate the 2 carbon end products of anaerobic glycolysis in plants and animals
4.02.07.07	Summarize cell respiration by correlating starting compounds and end products of the bridge step, krebs cycle, and the electron transport systems
4.02.07.08	Compare the amounts of ATP formed in aerobic metabolism versus anaerobic metabolism
4.02.07.09	List several functions that require ATP



Science Literacy	
4.02.07.10	Differentiate the 4 levels of organization of a protein molecule
4.02.07.11	Correlate the roles of proteins in cells-enzymes, structural, antibodies, receptor sites, pigments
4.02.07.12	Analyze the process of protein synthesis by discussing complementary base pairing, transcription, mRNA, tRNA, ribosomes, codons, anticodons, translation, and significance of errors
4.02.07.13	Analyze the cell cycle by discussing Gl, S, G2, Mitosis, and cytokinesis
4.02.07.14	Discuss the process of mitosis and correlate events in each phase
4.02.07.15	Differentiate plant and animal cytokinesis
4.02.07.16	Discuss meiosis and correlate events in each phase
4.02.07.17	Compare and contrast the processes of human spermatogenesis and cogenesis
4.02.07.18	Use a Punnett square to solve monohybrid and dihybrid cross problems
4.02.07.19	Define a mutation and discuss its significance
4.02.07.20	Describe briefly examples of recombinant DNA technology
4.02.08.00	Classify organisms by observable characteristics
4.02.09.00	Demonstrate knowledge of the general function of the human body
4.02.09.01	Define the terms Anatomy, Physiology and Pathology
4.02.09.02	Describe the organization of the body from cells to the whole organism
4.02.09.03	List ten body systems and give the general function of each
4.02.09.04	Define metabolism and name the two phases of metabolism
4.02.09.05	Briefly explain the role of ATP in the body
4.02.09.06	Define homeostasis and negative feedback



Science Literacy	
4.02.09.07	List and define the main directional terms for the body
4.02.09.08	List and define the three planes of division of the body
4.02.09.09	Name the subdivisions of the dorsal and ventral cavities
4.02.09.10	Name the basic metric units of length, weight, and volume
4.02.09.11	Define the metric prefixes - kilo-, cent-, milli-, and micro-
4.02.10.00	Demonstrate knowledge of chemistry, matter, and life
4.02.10.01	Identify elements on the periodic table
4.02.10.02	Describe the structure of an atom
4.02.10.03	Differentiate between atoms and molecules
4.02.10.04	Define the atomic number of an atom
4.02.10.05	Differentiate among elements, compounds, mixtures, and give examples of each
4.02.10.06	Explain why water is so important to the body
4.02.10.07	Define mixture; list the three types of mixtures and give two examples of each
4.02.10.08	Differentiate between ionic and covalent bonds
4.02.10.09	Define the terms acid, base and salt
4.02.10.10	Explain how the numbers on the pH scale relate to acidity and alkalinity
4.02.11.00	Demonstrate knowledge of cells and their functions
4.02.11.01	List three types of microscopes used to study cells
4.02.11.02	Describe the function and composition of cytoplasm
4.02.11.03	Name and describe the main organelles in the cell



Science Literacy	
4.02.11.04	Give the composition, location, and function of DNA
4.02.11.05	Give the location and function of RNA
4.02.11.06	Explain briefly how cells make proteins
4.02.11.07	Describe briefly the steps of cell division
4.02.11.08	List four methods by which substances enter and leave cells
4.02.11.09	Explain diffusion, filtration and osmosis
4.02.11.10	Define CANCER
4.02.11.11	List several risk factors of CANCER
4.02.12.00	Demonstrate knowledge of tissues, glands and membranes
4.02.12.01	Name the four main groups of tissues and give the location and general characteristics of each
4.02.12.02	Describe the difference between exocrine and endocrine glands
4.02.12.03	Give examples of soft, hard, and liquid connective tissues
4.02.12.04	Name four types of membranes and give location and functions of each
4.02.12.05	Describe two types of epithelial membranes
4.02.12.06	Explain the difference between malignant tumors and benign tumors
4.02.12.07	List four methods of diagnosing cancer
4.02.12.08	List four methods of treating cancer
4.02.13.00	Demonstrate knowledge of disease and disease producing organisms
4.02.13.01	Define disease and list seven causes of disease
4.02.13.02	List eight predisposing causes of disease



Science Literacy	
4.02.13.03	Differentiate between acute and chronic disease
4.02.13.04	List four types of organisms studied in microbiology and give characteristics of each
4.02.13.05	List some disease caused by each type of microorganism
4.02.13.06	Describe the three types of bacteria according to shape
4.02.13.07	List several diseases in humans caused by worms
4.02.13.08	Describe how infections may be spread
4.02.13.09	Describe several public health measures taken to prevent spread of disease
4.02.13.10	Differentiate sterilization, disinfection, and antisepsis
4.02.13.11	Describe universal precautions
4.02.13.12	Define Chemotherapy
4.02.13.13	Describe several methods used to identify microorganisms in the laboratory
4.02.14.00	Demonstrate knowledge of the integumentary system
4.02.14.01	Describe the layers of the Integumentary System
4.02.14.02	Describe the location and function of the appendages of the skin
4.02.14.03	List the main functions of the skin
4.02.14.04	Summarize the information to be gained by observation of the skin
4.02.14.05	List the main diseases of the skin
4.02.15.00	Demonstrate knowledge of the skeletal system
4.02.15.01	Name the three different types of bone cells and describe the functions of each



Science Literacy	
4.02.15.02	Differentiate between compact bone and spongy bone
4.02.15.03	Describe the structure of a long bone
4.02.15.04	Explain how long bones grow
4.02.15.05	Differentiate between red and yellow marrow
4.02.15.06	List the bones of the axial skeleton
4.02.15.07	List the bones of the appendicular skeleton
4.02.15.08	Describe five bone disorders
4.02.15.09	Describe three abnormal curves of the spine
4.02.15.10	List and define six types of fractures
4.02.15.11	Describe the three types of joints
4.02.15.12	Describe the structure of a synovial joint
4.02.15.13	Define six types of movement that occur at a synovial joint
4.02.15.14	Describe four types of arthritis
4.02.16.00	Demonstrate knowledge of the muscular system
4.02.16.01	List the characteristics of skeletal muscles
4.02.16.02	Describe how muscles contract
4.02.16.03	List the substances needed in muscle contraction and describe the function of each
4.02.16.04	Define oxygen debt
4.02.16.05	Compare isotonic and isometric contractions
4.02.16.06	Explain how muscles work in pairs to produce movement
4.02.16.07	Name some major muscles in each muscle group



Science Literacy	
4.02.16.08	Describe how muscles change with age
4.02.16.09	List the major muscular disorders
4.02.17.00	Demonstrate knowledge of the nervous system
4.02.17.01	Describe the organization of the nervous system according to structure and function
4.02.17.02	Explain the transmission of a nerve impulse
4.02.17.03	Define synapse and describe the role of neurotransmitters at the synapse
4.02.17.04	Name the three types of nerves and explain how they differ from each other
4.02.17.05	Describe the spinal cord and name several functions
4.02.17.06	Describe and name the spinal nerves
4.02.17.07	Name and describe the main parts of the reflex arc and cite examples of reflexes
4.02.17.08	Compare the location and functions of the two parts of autonomic nervous system
4.02.18.00	Demonstrate knowledge of the sensory system
4.02.18.01	Describe the function of the sensory system
4.02.18.02	List the major senses
4.02.18.03	Describe the structure of the eye
4.02.18.04	Define refraction and list the refractive media of the eye
4.02.18.05	List several disorders of the eye
4.02.18.06	Describe the three divisions of the ear
4.02.18.07	Describe the receptors for heating and equilibrium



Science Literacy	
4.02.18.08	Define general sense and give five examples of such senses
4.02.19.00	Demonstrate knowledge of the endocrine system
4.02.19.01	Compare the effects of the nervous system and the endocrine system in controlling the body
4.02.19.02	Explain how hormones are regulated
4.02.19.03	Identify the glands of the endocrine system
4.02.19.04	List the hormones produced by each endocrine gland
4.02.19.05	Describe how the hypothalamus controls the anterior and posterior pituitary
4.02.19.06	Explain how the endocrine system responds to stress
4.02.20.00	Demonstrate knowledge of the blood
4.02.20.01	List the functions of the blood
4.02.20.02	List the main ingredients in plasma
4.02.20.03	Name the three types of formed elements in the blood
4.02.20.04	Describe five types of leukemia
4.02.20.05	Describe the formation of the blood cells and give approximate lifespan of each type
4.02.20.06	Cite three steps of hemostasis
4.02.20.07	Describe the steps in blood clotting
4.02.20.08	Define blood type and explain the effect of blood on transfusion
4.02.20.09	List the reasons for transfusions of whole blood and blood components
4.02.20.10	Define anemia
4.02.20.11	Define leukemia



Science Literacy	
4.02.20.12	Describe the tests used to study the blood
4.02.21.00	Demonstrate knowledge of the heart and heart disease
4.02.21.01	Describe the three layers of the heart
4.02.21.02	Name the four chambers of the heart
4.02.21.03	Name the valves at the entrance and exit of each ventricle
4.02.21.04	Describe blood circulation through the myocardium
4.02.21.05	Name the components of the heart's conduction system
4.02.21.06	Describe the cardiac cycle
4.02.21.07	Explain what produces the two main heart sounds
4.02.21.08	Define several terms that describe different heart rates
4.02.21.09	Describe several common types of heart disease
4.02.21.10	List six areas that might contribute to the prevention of heart disease
4.02.21.11	Describe five instruments used to study the heart
4.02.21.12	Describe the electric activity of the heart
4.02.21.13	Describe three approaches to the treatment of heart diseases
4.02.22.00	Demonstrate knowledge of blood vessels and blood circulation
4.02.22.01	Differentiate among the three main types of blood vessels
4.02.22.02	Compare the locations and functions of the pulmonary and systemic circuits
4.02.22.03	Describe the three coats of the blood vessels
4.02.22.04	Name the four sections of the aorta
4.02.22.05	Name the main branches of the aorta



Science Literacy	
4.02.22.06	Define venous sinus
4.02.22.07	Name the main vessels that drain into the superior and inferior vena cava
4.02.22.08	Describe the structure and function of the hepatic portal system
4.02.22.09	Explain how materials are exchanged across the capillary wall
4.02.22.10	Describe the factors that regulate blood flow
4.02.22.11	Define pulse and list factor that affect pulse rate
4.02.22.12	List several factors that affect blood pressure
4.02.22.13	Explain how blood pressure is commonly measured
4.02.22.14	List some disorders that involve the blood vessels
4.02.22.15	List four types of shock
4.02.22.00	Demonstrate knowledge of the lymphatic system
4.02.23.00	Demonstrate knowledge of the symphotic system
4.02.23.01	List the three major functions of the lymphatic system
4.02.23.01	List the three major functions of the lymphatic system
4.02.23.01 4.02.23.02	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by
4.02.23.01 4.02.23.02 4.02.23.03	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by each
4.02.23.01 4.02.23.02 4.02.23.03 4.02.23.04	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by each  List the major structures of the lymphatic system  Describe the composition and function of the reticuloendothelial
4.02.23.01 4.02.23.02 4.02.23.03 4.02.23.04 4.02.23.05	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by each  List the major structures of the lymphatic system  Describe the composition and function of the reticuloendothelial system
4.02.23.01 4.02.23.02 4.02.23.03 4.02.23.04 4.02.23.05 4.02.24.00	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by each  List the major structures of the lymphatic system  Describe the composition and function of the reticuloendothelial system  Demonstrate knowledge of the body defenses, immunity and vaccines
4.02.23.01 4.02.23.02 4.02.23.03 4.02.23.04 4.02.23.05 4.02.24.00 4.02.24.01	List the three major functions of the lymphatic system  Explain how lymphatic capillaries differ from blood capillaries  Name the two main lymphatic ducts and describe the area drained by each  List the major structures of the lymphatic system  Describe the composition and function of the reticuloendothelial system  Demonstrate knowledge of the body defenses, immunity and vaccines  List the factors that determine the occurrence of infection



Science Literacy	
4.02.24.04	List several types of inborn immunity
4.02.24.05	Differentiate between natural and artificial immunity
4.02.24.06	Differentiate between active and passive immunity
4.02.24.07	Define antigen and antibody
4.02.24.08	Compare T cells and B cells
4.02.24.09	Define the term vaccine
4.02.24.10	Define the term immune serum
4.02.24.11	List several disorders of the immune system
4.02.25.00	Demonstrate knowledge of the respiratory system
4.02.25.01	Define respiration and describe the three phases of respiration
4.02.25.02	Name all the structures of the respiratory system
4.02.25.03	Explain the mechanism for pulmonary ventilation
4.02.25.04	List the ways in which oxygen and carbon dioxide are transported in the blood
4.02.25.05	Describe the ways in which respiration is regulated
4.02.25.06	List and define the five symptoms of abnormal respiration
4.02.25.07	Describe four types of respiratory infection
4.02.25.08	Name the diseases involved in chronic obstructive pulmonary disease
4.02.26.00	Demonstrate knowledge of the digestive system
4.02.26.01	Name the two main functions of the digestive system
4.02.26.02	Describe the four layers of the digestive tract wall
4.02.26.03	Describe the layers of the peritoneum



Science Literacy	
4.02.26.04	Name and describe the organs of the digestive tract
4.02.26.05	Name and describe the accessory organs
4.02.26.06	List the functions of each organ involved in digestion
4.02.26.07	Explain the role of enzymes in digestion
4.02.26.08	Name the digestion products of fats, protein, and carbohydrates
4.02.26.09	Define absorption
4.02.26.10	Define villi and state how villi function in absorption
4.02.26.11	Describe how bile functions in digestion
4.02.26.12	Name the ducts that carry bile into the digestive tract
4.02.26.13	List the main functions of the liver
4.02.26.14	Explain the use of feedback in regulating digestion
4.02.27.00	Demonstrate knowledge of body fluids
4.02.27.01	Compare intracellular and extracellular fluids
4.02.27.02	List four types of extracellular fluids
4.02.27.03	Name the systems that are involved in water balance
4.02.27.04	Define electrolytes and describe their importance
4.02.27.05	Describe three methods for regulating pH of body fluids
4.02.27.06	Describe five disorders involving body fluids
4.02.27.07	Describe fluids used in therapy
4.02.28.00	Demonstrate knowledge of the urinary system
4.02.28.01	List the systems that eliminate waste and name the substances eliminated by each



Science Literacy	
4.02.28.02	Describe the parts of the urinary system and name the functions of each
4.02.28.03	Trace the path of a drop of blood as it flows through the kidney
4.02.28.04	Describe the nephron
4.02.28.05	Name the four processes involved in urine formation
4.02.28.06	Identify the role of ADH in urine formation
4.02.28.07	Name two hormones produced by the kidneys
4.02.28.08	List five signs of chronic renal failure
4.02.28.09	Explain the purpose of kidney dialysis
4.02.28.10	Name three normal and six abnormal constituents of urine
4.02.29.00	Demonstrate knowledge of the reproductive system
4.02.29.01	Name the male and female gonads and describe the function of each
4.02.29.02	State the purpose of meiosis
4.02.29.03	List the accessory organs of the male and female reproductive tracts and cite the function of each
4.02.29.04	Describe the composition and function of semen
4.02.29.05	Draw and label a spermatozoon
4.02.29.06	List in order the hormones produced during the menstrual cycle and cite the source of each
4.02.29.07	Describe the functions of the main male and female sex hormones
4.02.29.08	Explain how negative feedback regulates reproductive function in both males and females
4.02.29.09	Describe the major disorders of the male and female reproductive tract



Science Literacy	
4.02.29.10	Describe fertilization and early development of the fertilized egg
4.02.29.11	Describe the structure and function of the placenta
4.02.29.12	Describe the four stages of labor
4.02.29.13	Cite the advantages of breast feeding
4.02.29.14	Describe the changes that occur during and after menopause
4.02.29.15	Describe contraception and cite the main methods of contraception currently in use
4.02.30.00	Demonstrate heredity and hereditary diseases
4.02.30.01	Describe the mechanism of gene function
4.02.30.02	Explain the difference between dominant recessive genes
4.02.30.03	Describe a carrier of genetic trait
4.02.30.04	Define meiosis
4.02.30.05	Explain how sex is determined in humans
4.02.30.06	Describe what is meant by the term sex linked
4.02.30.07	List several factors that may influence the expression of a gene
4.02.30.08	Define mutation
4.02.30.09	Differentiate among congenital, genetic and hereditary disorders
4.02.30.10	List several factors that may produce genetic disorders
4.02.30.11	Describe several methods used to trait genetic disorders



# SOCIAL/CULTURAL LITERACY

#### Growth of Social. Political. and Economic Institutions

5.01.01.00	Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals
5.01.01.01	Consider the importance of registering to vote and voting in a democratic society
5.01.01.02	Identify the legal responsibilities of citizenship
5.01.01.03	Describe the ways officials can be elected, appointed, or removed from office
5.01.01.04	Know the purpose of and qualifications for voting in Ohio's primary and general elections
5.01.03.00	Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution)
5.01.03.01	Explain the purpose and contents of the Bill of Rights
5.01.03.02	Demonstrate an understanding of federalism (local, state, national)
5.01.03.03	Identify the main function of each branch (legislative, executive, judicial) at different levels
5.01.03.04	Describe the process for making, amending, or removing laws
5.01.03.05	Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc.
5.01,03.06	Understand and apply the principles of separation of powers and checks and balances
5.01.03.07	Distinguish the constitutional relationship among the several levels of government regarding reserved powers, delegated powers, concurrent powers, elastic clause, and powers denied the government



#### Social/Cultural Literary

5.01.04.00	Describe the political process
5.01.04.01	Understand the role of political parties in a democracy
5.01.04.02	Understand the role of public officials an dhow policy is carried out
5.01.04.03	Describe strengths and weaknesses of the American System
5.01.04.04	Describe how resources are gathered to support the process and policies
5.01.04.05	Understand that lawmaking is influenced through formal and informal processes
5.01.04.06	Explain the relationship of public policy to political processes and interpret policy in light of the formal and informal processes taking place within a constitutional framework
5.01.04.07	Explore the relationship which exists between the formal and informal procedures of government as a means to evaluate the role of the citizen in policy making
5.01.05.00	Compare and contrast political systems
5.01.05.01	Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships
5.01.05.02	Identify international governing bodies (e.g., United Nations, League of Nations. World Bank, European Economic Community, Organization of American States, etc.) and their impact
5.01.06.00	Compare the culture, customs, and traditions of different ethnic and minority groups in America
5.01.06.01	Be aware of the diverse social, psychological, political and economic factors which influence lifestyles
5.01.06.02	Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers



Social/Cultural Literacy	
5.01.06.03	Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System
5.01.06.04	Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World
5.01.06.05	Identify factors which have contributed to America's cultural pluralism, including historical, racial, ethnic, religious, and linguistic backgrounds of this nation's people
5.01.06.06	Identify significant features of the 14th Amendment (due process and equal protection of the laws)
5.01.07.00	Know that individuals and societies make choices to satisfy wants with limited resources
5.01.07.01	Develop an understanding of economic systems
5.01.07.02	Develop an understanding of the structure and functions of the American economy
5.01.07.03	Recognize the uneven distribution of world resources
5.01.07.04	Describe the role of technological growth in economic development and the impact of technology on the physical and human environment
5.01.07.05	Compare the benefits and costs of consuming versus saving
5.01.07.06	Explain the benefits and costs of investing in human and physical capital and describe how adding new capital resources can increase productivity
5.01.07.07	Suggest the impact of savings and credit usage on the economy
5.01.07.08	Identify the functions and characteristics of money and suggest acceptable and unacceptable forms of money
5.01.07.09	Identify types of financial institutions and explore their roles as intermediaries between households and businesses



Social/Cultural	Literacy
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5.01.07.10	Understand the following economic concepts: 1) individuals and households exchange their resources for the income they need to buy goods and services: 2) individuals and businesses use resources to produce goods and services and generate income; 3) markets allocate goods and services: 4) competition affects markets; 5) local, state, and national governments play important roles in a market economy
5.01.07.11	Determine patterns of movement of people, ideas, products, and capital, and identify the linkages that prompt interdependence among people and societies
5.01.07.12	Describe human modifications of the physical environment and consider alternative approaches to dealing with the environment
5.01.07.13	Examine the impact events in one market may have on other markets and the interdependence of markets
5.01.07.14	Identify multinational corporations and assess their role in world economic development and trade
5.01.07.15	Relate scarcity and distribution of resources to current issues
5.01.07.16	Create alternative scenarios pertaining to current issues to determine the impact of personal and social economic decisions on the allocation of resources

# Human Diversity and Historical/Current Issues

5.02.01.00	Describe the causes and effects of selected wars
5.02.02.00	Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements
5.02.02.01	Recognize diversity among significant individuals
5.02.02.02	Recognize diversity among significant organizations
5.02.02.03	Recognize diversity surrounding immigration
5.02.02.04	Recognize diverse ethnic and minority groups



Social/Cultural Literacy	
5.02.02.05	Recognize major world religions
5.02.02.06	Describe the relationship between diversity and historical development and contributions
5.02.03.00	Describe how an individual interacts with the various societal, economic, and political systems
5.02.03.01	Be aware of the diverse social, psychological, political and economic factors which influence lifestyles
5.02.03.02	Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds
5.02.03.03	Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement
5.02.03.04	Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society
5.02.03.06	Justify proposed solutions to international problems by explaining how the solutions would be acceptable to the parties involved
5.02.03.07	Create alternative scenarios to determine the impact and reaction of regions or nations to proposed solutions to current issues
Analyzing Information	
5.03.01.00	Differentiate between primary and secondary sources of information
5.03.02.00	Illustrate that information can be influenced by cultural bias or propaganda

suggest remedies to those problems



5.03.03.00

Analyze and explain social, cultural and political problems and

Social/Cultural Literacy	
5.03.03.01	Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
5.03.03.02	Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences\
5.03.03.03	Use appropriate resources to research antecedent development to current issues
5.03.03.04	Project the consequences of different decisions based on past experiences
5.03.03.05	Create alternative scenarios pertaining to current issues to determine the impact of proposed solutions on democratic principles
5.03.03.06	Explore the roots of prejudice and identify ways of combating prejudice
5.03.04.00	Compare and contrast culture, customs and traditions of ethnic and minority groups
5.03.05.00	Analyze social forces the influence family life
5.03.06.00	Demonstrate the ability to use information that enables citizens to make informed choices
5.03.06.01	Use multiple historical narratives to research the connections between current events and their antecedents
5.03.06.02	
	Identify, analyze, and synthesize historians' arguments, explanations, or interpretations of historical events/issues
5.03.06.03	
	or interpretations of historical events/issues  Identify, analyze, and synthesize arguments, explanation, or



Social/Cultural Literacy	
5.03.06.06	Demonstrate the ability to use information that enables citizens to make informed choices: analyze sources to obtain information; compare and contrast points of agreement and disagreement among sources; evaluate the reliability of available information; identify and weigh alternative viewpoints
5.03.06.07	Compare points of agreement and disagreement among sources providing information about civic issues
5.03.07.00	Communicate and cooperate with people of different cultural backgrounds
5.03.08.00	Collect and analyze information from charts, graphs, maps, and pictures
5.03.09.00	Identify and explain how world problems and future trends will impact his or her life
5.03.10.00	Describe and discuss world patterns of population, geographic land forms, climate regions, and economic activities
5.03.11.00	Identify opportunities for involvement in civic activities
5.03.11.01	Explain the importance of and decide upon the best methods for citizen participation in the policy process given a particular set of circumstances
5.03.11.02	Participate with others in evaluating public policy and work to achieve consensus on how the policy issues should be addressed
5.03.11.03	Distinguish between voluntary efforts that involve monitoring and influencing public policy and those that do not
5.03.11.04	Understand that the evolution of democratic principles (e.g., civil rights, widening franchise) can occur through civil disobedience
5.03.11.5	Participate in a project designed to serve the community



Social/Cultural Literacy	
5.03.12.00	Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
5.03.13.00	Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences
5.03.14.00	Project the consequences of different decisions based on past experiences



# COMPUTER LITERACY

10.04.01.00	Demonstrate knowledge of Computer Literacy I for Windows
10.04.01.01	Explain what a computer is and how it processes data to produce information
10.04.01.02	Identify the four operations of the information processing cycle: input, process, output, and storage
10.04.01.03	Explain how the operations of the information processing cycle are performed by computer hardware and software
10.04.01.04	Describe the elements of an information system: equipment, software, data, personnel, users, and procedures
10.04.01.05	Explain the responsibilities of information system personnel
10.04.01.06	Explain the use of computers in our world
10.04.01.07	Identify the most widely used general microcomputer software applications and their key processing features
10.04.01.08	Describe how each application can help users
10.04.01.09	Explain integrated software and its advantages
10.04.01.10	List and describe the guidelines for purchasing hardware and software packages
10.04.01.11	List and describe the learning aids and support tools that help users to use microcomputer applications
10.04.01.12	Define the types of inputs and outputs and how the computer uses each type
10.04.01.13	Define data and explain the terms used to describe data: field, record, file, database
10.04.01.14	Describe the standard features of keyboards, and explain how to use the cursor control and function keys
10.04.01.15	Explain the types of terminals and how they are used



Computer Literacy	
10.04.01.16	Explain user interfaces and list the features that a good user interface should have
10.04.01.17	Discuss how data entry differs in interactive and batch processing
10.04.01.18	List and explain the systems and procedures associated with data entry
10.04.01.19	Explain the term ergonomics and describe some of the important features of good equipment design
10.04.01.20	Identify the components of the processor unit and describe their use
10.04.01.21	Define a bit and describe how a series of bits in a byte is used to represent characters
10.04.01.22	Discuss how the ASCII and EBCIDIC codes represent characters
10.04.01.23	Discuss the primary factors that affect the speed of the processor unit
10.04.01.24	Describe the characteristics of RAM and ROM memory, and list several other types of memory
10.04.01.25	List the common types of reports that are used for output
10.04.01.26	Describe multimedia
10.04.01.27	Describe the features and classifications of printers
10.04.01.28	Identify and explain the differences of impact and non-impact printers
10.04.01.29	Describe the types of screens available and list common screen features
10.04.01.30	Define auxiliary storage
10.04.01.31	Describe the forms of auxiliary storage used and how special-purpose storage devices are used
10.04.01.32	Explain how data is stored on diskettes, hard disks and tape
10.04.01.33	Explain how data stored on magnetic disks can be protected



Computer Literary	
10.04.01.34	Explain what data management is and why it is needed
10.04.01.35	Describe sequential files, indexed files, and direct (or relative) files
10.04.01.36	Explain the difference between sequential and random retrieval of record from a file
10.04.01.37	Describe the data maintenance procedures for updating data including adding, changing, and deleting
10.04.01.38	Discuss the advantages of a database management system (DBMS)
10.04.01.39	Define and describe the basic components of a communications system
10.04.01.40	Describe the various transmission media and line configurations used for communication channels
10.04.01.41	Identify and explain the communications equipment used in a communications system
10.04.01.42	Describe the functions performed by communications software including how data is transmitted
10.04.01.43	List the major categories of networks and describe the common network configurations
10.04.01.44	Describe how bridges and gateways are used to connect networks
10.04.01.45	Define the term management information systems and explain how information is important to an organization
10.04.01.46	Discuss the different levels in an organization and how the information requirements differ for each level
10.04.01.47	Define the term information system and identify the elements of an information system
10.04.01.48	Describe the different types of information systems and the trend toward integration
10.04.01.49	Explain how personal computers are used in management information systems



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Computer Literary	
10.04.01.50	Discuss how electronic devices and applications are used in the automated office
10.04.01.51	Describe the technologies that are developing for the automated factory
10.04.01.52	Discuss the trend toward computer-integrated enterprise
10.04.01.53	Discuss the use of personal computers in the home
10.04.01.54	Describe the methods used in computer-aided instruction (CAI)
10.04.01.55	Explain the guidelines for purchasing personal computers
10.04.01.56	Discuss the social issues relating to computers
10.04.01.57	Define data and information
10.04.01.58	Describe the use and handling of diskettes and hard disks
10.04.01.59	Discuss computer software and explain the difference between application software and system software
10.04.01.60	Describe what a graphic user interface (GUI) is
10.04.01.61	Identify the elements of a window
10.04.01.62	Perform basic mouse operations
10.04.01.63	Perform the following window operations; choose a command from a menu; respond to dialogue boxes; name a file; explain what a directory, subdirectory and path are; open, enlarge and scroll a window; and obtain on-line help while using an application



## **COMMON CORE**

## Medical Terminology

(Mult 101)

(Mult 101)	·
11.01.01.00	Use common medical symbols, abbreviations and selected English, Latin and Greek equivalents
11.01.01.01	Identify commonly used medical symbols (e.g. + = acid reaction)
11.01.01.02	Write out full names of commonly used abbreviations (e.g. $Hx = History$ )
11.01.01.03	Spell medical terms correctly
11.01.02.00	Demonstrate knowledge of medical terminology
11.01.02.01	Define basic prefixes and suffixes
11.01.02.02	Spell basic prefixes and suffixes
11.01.02.03	Pronounce basic prefixes and suffixes
11.01.02.04	Build medical terms from root elements
11.01.02.05	Identify principal terms relating to the body as a whole
11.01.02.06	Define terms related to the integumentary system
11.01.02.07	Define terms related to the skeletal system
11.01.02.08	Define terms related to the muscular system
11.01.02.09	Define terms related to the nervous system
11.01.02.10	Define terms related to the circulatory/cardiovascular system
11.01.02.11	Define terms related to the lymphatic system



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11.01.02.12	Define terms related to the respiratory system
11.01.02.13	Define terms related to the digestive system
11.01.02.14	Define terms related to the endocrine system
11.01.02.15	Define terms related to the urinary system
11.01.02.16	Define terms related to the reproductive system
11.01.02.17	Define terms related to the senses
11.01.02.18	Define terms related to immunology
11.01.02.19	Define terms related to pathology

Recommended Assessment: Dean Vaughn Medical Test in correlation with the Dean Vaughn Medical Terminology 350 Instructional System.

### Employability Skills

Common Core

11.02.01.00	Investigate career options
11.02.01:01	Determine interests and aptitudes
11.02.01.02	Identify career options
11.02.01.03	Research occupations matching interests and aptitudes
11.02.01.04	Select career(s) that best match(es) interests and aptitudes
11.02.01.05	Identify advantages and disadvantages of career options, including nontraditional careers, hours of work, offshift, weekends, and holidays
11.02.01.06	Assess differences in wages, annual incomes, and job opportunities based on geographical location
11.02.01.07	Develop a career plan



Common Core	
11.02.02.00	Analyze potential barriers to employment
11.02.02.01	Identify common barriers to employment
11.02.02.02	Describe strategies to overcome employment barriers
11.02.03.00	Apply decision-making techniques in the workplace
11.02.03.01	Identify the decision to be made
11.02.03.02	Compare alternatives
11.02.03.03	Determine consequences of each alternative
11.02.03.04	Make decisions based on values and goals
11.02.03.05	Evaluate the decision made
11.02.04.00	Apply problem-solving techniques in the workplace
11.02.04.00	
11.02.04.01	Diagnose the problem and its causes
11.02.04.02	Identify alternatives and their consequences in relation to the problem
11.02.04.03	Examine multicultural and nonsexist dimensions of problem solving
11.02.04.04	Utilize resources to explore possible solutions to the problem
11.02.04.05	Compare and contrast the advantages and disadvantages
11.02.04.06	Determine appropriate action
11.02.04.07	Evaluate results
11.02.05.00	Evaluate the relationship of self-esteem to work ethic
11.02.05.01	Identify special characteristics and abilities in self and others
11.02.05.02	Identify internal and external factors that affect self-esteem



Common Core	
11.02.06.00	Analyze the relationship of personal values and goals to work ethic in and out of the workplace
11.02.06.01	Distinguish between values and goals
11.02.06.02	Determine the importance of values and goals
11.02.06.03	Evaluate how values affect goals
11.02.06.04	Identify short-term and long-term goals
11.02.06.05	Prioritize personal goals
11.02.06.06	Describe how personal values are reflected in work ethic
11.02.06.07	Describe how interactions in the workplace affect personal work ethic
11.02.07.00	Demonstrate work ethic
11.02.07.01	Examine factors that influence work ethic
11.02.07.02	Exhibit characteristics that reflect an appropriate work ethic
11.02.08.00	Prepare for employment
11.02.08.01	Identify traditional and nontraditional employment sources
11.02.08.02	Utilize employment sources
11.02.08.03	Research job opportunities, including nontraditional careers
11.02.08.04	Interpret equal employment opportunity laws
11.02.08.05	Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
11.02.08.06	Prepare for generic employment tests and those specific to an occupation/organization



Common Core	
11.02.09.00	Design a resume
11.02.09.01	Identify personal strengths and weaknesses
11.02.09.02	List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
11.02.09.03	Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
11.02.09.04	Complete resume using various formats
11.02.09.05	Secure references
11.02.10.00	Complete and process job application forms
11.02.10.01	Explain the importance of an application form
11.02.10.02	Identify ways to obtain job application forms
11.02.10.03	Describe methods for handling illegal questions on job application forms according to EOE regulations
11.02.10.04	Demonstrate legible written communication skills using correct grammar, spelling, and concise wording following EOE guidelines
11.02.10.05	Return application to proper person, request interview, and follow up
11.02.11.00	Demonstrate interviewing skills
11.02.11.01	Investigate interview environment and procedures
11.02.11.02	Explain the critical importance of personal appearance, hygiene, and demeanor
11.02.11.03	Demonstrate question and answer techniques
11.02.11.04	Demonstrate methods for handling difficult and/or illegal interview questions



Common Core	
11.02.12.00	Secure employment
11.02.12.01	Identify present and future employment opportunities within an occupation/organization
11.02.12.02	Research the organization/company
11.02.12.03	Use follow-up techniques to enhance employment potential
11.02.12.04	Compare and evaluate job offers
11.02.13.00	Analyze the organizational structure of the workplace
11.02.13.01	Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
11.02.13.02	Be aware of and obey all company policies and procedures
11.02.13.03	Examine the role/relationship between employee and employer
11.02.13.04	Recognize opportunities for advancement and reasons for termination
11.02.14.00	Maintain positive relations with others
11.02.14.01	Exhibit appropriate work habits and attitude
11.02.14.02	Identify behaviors to establish successful working relationships
11.02.14.03	Cooperate and compromise through teamwork and group participation
11.02.14.04	Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age
11.02.15.00	Analyze opportunities for personal and career growth
11.02.15.01	Determine opportunities within an occupation/organization
11.02.15.02	Compare and contrast other opportunities



Common Core	
11.02.15.03	List benefits of job advancement
11.02.15.04	Evaluate factors involved when assuming a new position within or outside an occupation/organization
11.02.16.00	Exhibit characteristics needed for advancement
11.02.16.01	Display a positive attitude
11.02.16.02	Demonstrate knowledge of a position
11.02.16.03	Perform quality work
11.02.16.04	Adapt to changing situations and technology
11.02.16.05	Demonstrate capability for different positions
11.02.16.06	Participate in continuing education/training programs
11.02.16.07	Respect, accept, and work with ALL individuals in the workplace
11.02.17.00	Assess the impact of technology in the workplace
11.02.17.01	Cite how past business/industry practices have influenced present business/industry processes
11.02.17.02	Investigate the use of technology in the workplace
11.02.17.03	Analyze how present skills can be applied to learning new technologies
11.02.18.00	Use a variety of technological applications
11.02.18.01	Explore basic mathematical, scientific, computer, and technological principles
11.02.18.02	Use technology to accomplish assigned tasks
11.02.18.03	Create solutions to problems using technical means



Common Core	
11.02.19.00	Apply lifelong learning to individual situations
11.02.19.01	Define lifelong learning
11.02.19.02	Identify factors that cause the need for lifelong learning
11.02.20.00	Adapt to change
11.02.20.01	Analyze the effect of change
11.02.20.02	Identify reasons why goals change
11.02.20.03	Describe the importance of flexibility when reevaluating goals
11.02.20.04	Evaluate the need for continuing education/training
11.02.21.00	Analyze global enterprise system
11.02.21.01	Identify characteristics of various enterprise system
11.02.21.02	Examine the relationship between competition, risk, and profit
11.02.21.03	Illustrate how supply and demand influence price
11.02.22.00	Evaluate personal money management
11.02.22.01	Describe the need for personal management records
11.02.22.02	Identify methods of taxation
11.02.22.03	Analyze how credit affects financial security
11.02.22.04	Compare types and methods of investments
11.02.22.05	Prepare a personal budget
11.02.22.06	Be an informed and responsible consumer



Common Core	
11.02.22.07	Analyze the effects of advertising on the consumer
11.02.23.00	Analyze the effects of family on work
11.02.23.01	Recognize how family values, goals, and priorities are reflected in the workplace
11.02.23.02	Identify present and future family structures and responsibilities
11.02.23.03	Describe personal and family roles
11.02.23.04	Analyze concerns of parents who work outside the home
11.02.23.05	Examine how family responsibilities can conflict with work
11.02.23.06	Resolve family-related conflicts
11.02.23.07	Explain how to use support systems/community resources to help resolve family-related conflict
11.02.24.00	Analyze the effects of work on family
11 <b>.02.24.00</b> 11.02.24.01	Analyze the effects of work on family  Identify responsibilities associated with paid and nonpaid work
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11.02.24.01	Identify responsibilities associated with paid and nonpaid work
11.02.24.01 11.02.24.02	Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes
11.02.24.01 11.02.24.02 11.02.24.03	Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04	Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04 11.02.24.05	Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families  Identify family support systems and resources
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04 11.02.24.05 11.02.24.06	Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families  Identify family support systems and resources  Identify stress management options to alleviate occupational "burnout"



Common Core	
11.02.26.00	Cooperate with others in the workplace
11.02.26.01	Identify situations in which compromise is necessary
11.02.26.02	Examine how individuals from various backgrounds contribute to work-related situations
11.02.26.03	Demonstrate initiative to facilitate cooperation
11.02.26.04	Give and receive constructive criticism to enhance cooperation
11.02.27.00	Evaluate leadership styles appropriate for the workplace
11.02.27.01	Identify characteristics of effective leaders
11.02.27.02	Compare leadership styles including non-traditional "coaching"
11.02.27.03	Demonstrate effective delegative skills
11.02.27.04	Identify opportunities to lead in the workplace
11.02.28.00	Demonstrate effective teamwork skills
11.02.28.01	Identify the responsibilities of a valuable group member
11.02.28.02	Exhibit open-mindedness
11.02.28.03	Identify methods of involving each member of a team
11.02.28.04	Contribute to the efficiency and success of a group
11.02.28.05	Determine ways to motivate others
11.02.28.06	Explain the advantage of team decisions
11.02.28.07	Prepare and plan an agenda
11.02.28.08	Develop a plan of action
11.02.28.09	Assess success or failure of team



Common Core	
11.02.29.00	Utilize effective communication skills
11.02.29.01	Identify the importance of active listening
11.02.29.02	Demonstrate assertive communication
11.02.29.03	Recognize the importance of verbal and nonverbal cues and messages
11.02.29.04	Analyze written material
11.02.29.05	Prepare written material
11.02.29.06	Give and receive feedback
11.02.29.07	Articulate thoughts
11.02.29.08	Use appropriate language
11.02.29.09	Demonstrate the value of networking
11.02.30.00	Evaluate the role of small business in the economy
11.02.30.01	Identify the benefits of small business to a community
11.02.30.02	Analyze opportunities for small business in a community
11.02.31.00	Examine considerations of starting a business
11.02.31.01	Research a business idea
11.02.31.02	Compare various ways to become a small business owner
11.02.31.03	Investigate factors to consider in financing a new business
11.02.31.04	Evaluate entrepreneurship as a career option



Common Core

## Insurance

11.03.01.00	Secure fidelity of bonding
11.03.01.01	Identify need for fidelity of bonding
11.03.01.02	Complete application for fidelity of bonding
11.03.02.00	Identify requirements of payment system
11.03.02.01	Identify and follow required procedures for private carriers
11.03.02.02	Identify and follow required procedures for noninsured patients
11.03.02.03	Identify and follow required procedures for Health Maintenance Organization (HMO)
11.03.02.04	Identify and follow required procedures for Preferred Provider Organization (PPO)
11.03.02.05	Identify and follow required procedures for Independent Practitioner Association (IPA)
11.03.02.06	Identify and follow required procedures for U.S. government employees (CHAMPUS)
11.03.02.07	Identify and follow required procedures for Aid to Dependent Children (ADC)
11.03.02.08	Identify and follow required procedures for general assistance (GA)
11.03.02.09	Identify and follow required procedures for medicare
11.03.02.10	Identify and follow required procedures for medicaid
11.03.03.00	Identify procedure for diagnostic coding
11.03.03.01	Complete forms for proper coding of international classification of diseases (ICD-9 CM)



Common Core	
11.03.03.02	Complete forms for proper coding of current procedural terminology (CPT)
11.03.03.03	Complete forms for proper coding of health care procedural code (HCPC)
11.03.03.04	Complete forms for proper coding of diagnostic related groups (DRG)

## Career Exploration

11.04.01.00	Demonstrate knowledge of the basic forms of medical practices
11.04.01.01	Define Sole Proprietorship
11.04.01.02	Define Associate Practice
11.04.01.03	Define Group Practice
11.04.01.04	Define Partnership
11.04.01.05	Define Professional Corporation
11.04.02.00	Demonstrate knowledge of medical care delivery
11.04.02.01	Define General and Family Practice
11.04.02.02	Define Prepaid Comprehensive Care
11.04.02.03	Define Specialty Practice
11.04.02.04	Define Preventive Medicine
11.04.02.05	Define Public Health
11.04.03.00	Demonstrate knowledge of specialties of medicine
11.04.03.01	Define Aerospace Medicine
11.04.03.02	Define Allergy and Immunology



Common Core 11.04.03.03	Define Anesthesiology
11.04.03.04	Define Dermatology
11.04.03.05	Define Emergency Medicine
11.04.03.06	Define Family Practice
11.04.03.07	Define Internal Medicine
11.04.03.08	Define Neurology
11.04.03.09	Define Nuclear Medicine
11.04.03.10	Define Obstetrics and Gynecology
11.04.03.11	Define Ophthalmology
11.04.03.12	Define Otolaryngology
11.04.03.13	Define Pathology
11.04.03.14	Define Pediatrics
11.04.03.15	Define Physical Medicine and Rehabilitation
11.04.03.16	Define Preventive Medicine
11.04.03.17	Define Psychiatry
11.04.03.18	Define Radiology
11.04.03.19	Define Surgery
11.04.03.20	Define Urology
11.04.04.00	Demonstrate knowledge of allied health professions
11.04.04.01	Describe the role of the Anesthesiologist's Assistant
11.04.04.02	Describe the role of the Cardiovascular Technologist
11.04.04.03	Describe the role of the Cytotechnologist



Common Core	
11.04.04.04	Describe the role of the Diagnostic Medical Sonographer
11.04.04.05	Describe the role of the Emergency Medical Technician
11.04.04.06	Describe the role of the Paramedic
11.04.04.07	Describe the role of the Electroneurodiagnostic Technologist
11.04.04.08	Describe the role of the Histologic Technician/Technologist
11.04.04.09	Describe the role of the Medical Assistant
11.04.04.10	Describe the role of the Medical Illustrator
11.04.04.11	Describe the role of the Medical Laboratory Technician
11.04.04.12	Describe the role of the Medical Records Administrator
11.04.04.13	Describe the role of the Medical Technologist
11.04.04.14	Describe the role of the Nuclear Medicine Technologist
11.04.04.15	Describe the role of the Ophthalmic Medical Technologist
11.04.04.16	Describe the role of the Occupational Therapist
11.04.04.17	Describe the role of the Physician's Assistant
11.04.04.18	Describe the role of the Perfusionist/Phlebotomist
11.04.04.19	Describe the role of the Radiographer
11.04.04.20	Describe the role of the Radiation Therapy Technician
11.04.04.21	Describe the role of the Respiratory Technician
11.04.04.22	Describe the role of the Surgeon's Assistant
11.04.04.23	Describe the role of the Specialist in Blood Bank Technology
11.04.04.24	Describe the role of the Surgical Technologist



Common Core 11.04.05.00	Demonstrate knowledge of members of the health care team
11.04.05.01	Describe the role of the EKG technician
11.04.05.02	Describe the role of the Medical Technologist
11.04.05.03	Describe the role of the Certified Medical Transcriptionist
11.04.05.04	Describe the role of the Translator
11.04.05.05	Describe the role of the Licensed Practical Nurse/Licensed Vocational Nurse
11.04.05.06	Describe the role of the Registered Nurse
11.04.05.07	Describe the role of the Nurse Practitioner
Medical Law and	<u>Ethics</u>
11.05.01.00	Practice personal professional protocol with the medical community
11.05.01.01	List licensure requirements for physicians
11.05.01.02	Describe methods of licensure
11.05.01.03	List exceptions to the need for licensure
11.05.01.04	Define the components of public law and private law
11.05.01.05	Recognize the differences between ethics and law
11.05.01.06	Describe the reason diagnostic related groups are causing an ethical issue for physicians
11.05.01.07	Name one societal group denied health insurance
11.05.01.08	Comply with tax requirements
11.05.01.09	Maintain integrity of personal files
11.05.01.10	Be aware of statute of limitation
11.05.01.11	Identify ownership of medical records



Common Core	
11.05.02.00	Practice personal professional responsibilities
11.05.02.01	Participate in professional associations
11.05.02.02	Participate in professional development inservices
11.05.03.00	Practice personal professional protocol with regard to patient issues
11.05.03.01	Inform patient of truth of lending law
11.05.03.02	Inform patient of anatomical gift act
11.05.03.03	List and define the three categories of medical transplants
11.05.03.04	Name the most common transplant
11.05.03.05	Name four examples of tort law
11.05.03.06	Define the term emancipated minor
11.05.03.07	Describe the three parts of a physician-patient contract
11.05.03.08	Define the terms implied consent and express consent
11.05.03.09	Define the term privileged communication
11.05.03.10	List instances of legally required disclosure
11.05.03.11	Explain the terms defamation of character, libel and slander
11.05.03.12	Describe the conditions for revocation or suspension of a medical license
11.05.03.13	Inform patient of living will
11.05.03.14	Explain informed consent
11.05.03.15	Explain reasons for termination of patient services
11.05.03.16	Inform patient about noncompliance with physician's recommendations
11.05.03.17	Inform patient about remuneration



Common Core	
11.05.03.18	Inform patient of impact of communicable diseases
11.05.03.19	List ethical considerations surrounding the life of a fetus
11.05.04.00	Demonstrate knowledge of professional liability
11.05.04.01	List rights of the physician in providing medical care
11.05.04.02	List rights of the patient receiving medical care
11.05.04.03	Define and give examples of abandonment
11.05.04.04	Define and give examples of professional negligence
11.05.04.05	Give an example of implied agreement
11.05.04.06	Describe the precaution that should be observed in giving written instructions to patients
11.05.04.07	List the reasons for keeping medical records
11.05.04.08	List the record keeping necessary to provide legally adequate records
11.05.04.09	Name the six basic principles for preventing unauthorized disclosure of patient information
11.05.04.10	Describe the acceptable method for making changes in medical records
11.05.05.00	Demonstrate knowledge of legal issues as defined by the NATP
11.05.05.01	Define terms associated with legal responsibilities
11.05.05.02	Identify types of lawsuits prevalent in health care facilities
11.05.05.03	Identify precautions to take against a civil lawsuit
11.05.05.04	Identify types of litigation that could apply to selected case situations
11.05.05.05	Identify reporting and recording process for abuse. neglect, and/or mistreatment of consumer
11.05.05.06	Identify the purpose of the incident/accident reports



Common Core	
11.05.05.07	Identify types of incidents that must be reported
11.05.05.08	Complete report for incidents involving clients, visitors, and/or health care staff
11.05.05.09	Identify responsibility regarding negligent behavior
11.05.05.10	Discuss the importance of keeping the client's personal information confidential
11.05.05.11	Discuss the health care worker's responsibility for his/her own actions

### Quality Assurance

11.06.01.00	Maintain control system(s)
11.06.01.01	Perform peer review
11.06.01.02	Perform calibration and proficiency testing of equipment
11.06.01.03	Use standards and controls to check precision and accuracy of laboratory equipment
11.06.01.04	Perform record(s) audits
11.06.01.05	Discard outdated reagents
11.06.01.06	Follow all procedures exactly to test specimen
11.06.01.07	Perform test in duplicate
11.06.01.08	Periodically check the accuracy of the test results with a reference laboratory (proficiency testing)
11.06.02.00	Perform risk management
11.06.02.01	Maintain patient follow-up system (e.g. tickler file)
11.06.02.02	Participate in continuing education



11.06.03.00	Maintain documentation records
11.06.03.01	Establish criteria for Quality Health Care in each specialty, e.g.: Nursing, Clinical Laboratory, Pharmacy, X-Ray, EKG, Respiratory Therapy, Physical Therapy
11.06.03.02	Graph/chart quality control activities
11.06.03.03	Perform/document maintenance of equipment and other non expendables
11.06.03.04	Maintain patient records
11.06.04.00	Establish a quality assurance program stipulating policies and
	procedures for performance, documentation and validation of patient care and test results
11.06.04.01	
11.06.04.01 11.06.04.02	care and test results
	Care and test results  Maintain temperature logs  Perform routine maintenance and checks of equipment used by
11.06.04.02	Care and test results  Maintain temperature logs  Perform routine maintenance and checks of equipment used by patients and equipment used for testing  Where applicable perform controls and standards to validate test

## Hazard Management

11.07.01.00	Identify environmental safety hazards, accident prevention methods and disaster plans
11.07.01.01	Identify environment of local health care settings
11.07.01.02	Follow environmental safety rules of facility
11.07.01.03	Identify fire prevention methods, fire control, fire alarm systems and fire reporting procedures



Common Core	
11.07.01.04	Demonstrate use of fire extinguisher
11.07.01.05	Identify facility disaster plan
11.07.01.06	Follow safety precautions for using equipment
11.07.01.07	Follow safety precautions for using liquids and poisonous substances
11.07.01.08	Identify and correct safety hazards
11.07.01.09	Write incident reports for accidents or safety infractions
11.07.01.10	Identify legal implications of accidents in health care facilities
11.07.02.00	Demonstrate application of patient/client safety principles
11.07.02.01	Identify chemical, physical and environmental restraints
11.07.02.02	Identify instances in which restraints are used
11.07.02.03	Identify ways to minimize need for physical or chemical restraints
11.07.02.04	Identify safety rules pertaining to patient's activity
11.07.03.00	Demonstrate principles of body mechanics and ergonomics
11.07.03.01	Identify principles of ergonomics
11.07.03.02	Demonstrate proper mechanics in lifting, moving, transferring, ambulating and positioning a patient
11.07.03.03	Identify common causes of back injuries
11.07.04.00	Comply with state and federal regulations
11.07.04.01	Comply with Occupational Safety and Health Administration (OSHA) regulations
11.07.04.02	Comply with Environmental Protection Agency (EPA) regulations



Common Core	
11.07.04.03	Report communicable diseases to local health authorities as specified by CLIA 88
11.07.05.00	Maintain personal safety and hygiene
11.07.05.01	Wear uniform and/or professional attire
11.07.05.02	Practice proper hygiene
11.07.05.03	Become immunized against communicable diseases
11.07.05.04	Complete incident reports as required
11.07.05.05	Demonstrate safe and effective sterilizing methods for instruments and equipment
11.07.06.00	Dispose of waste materials in compliance with government regulations
11.07.06.01	Practice safe, sanitary, and sterile procedures
11.07.06.02	Dispose of paper and plastic supplies and gloves
11.07.06.03	Dispose of infectious waste
11.07.06.04	Dispose of controlled substances
11.07.06.05	Handle and properly dispose of needles, glass and sharp instruments
Infection Control	
11.08.01.00	Demonstrate general principles of asepsis
11.08.01.01	Define infection control terms
11.08.01.02	Identify modes of transmission for infection
11.08.01.03	Identify common communicable diseases and modes of transmission
11.08.01.04	Identify physical symptoms, treatment, and prevention of infection



Common Core	
11.08.01.05	Demonstrate universal precautions
11.08.01.06	Identify different aseptic techniques
11.08.02.00	Demonstrate hand-washing technique
11.08.02.01	Identify times when hands should be washed
11.08.02.02	Demonstrate each step of hand-washing procedure
11.08.03.00	Practice universal precautions against infection
11.08.03.01	Wear appropriate protective clothing and devices
11.08.03.02	Demonstrate hand-washing technique
11.08.03.03	Perform terminal disinfection
11.08.04.00	Demonstrate isolation technique
11.08.04.00 11.08.04.01	Demonstrate isolation technique  Identify different types of isolation
	_
11.08.04.01	Identify different types of isolation
11.08.04.01 11.08.04.02	Identify different types of isolation  Demonstrate mask and gown technique
11.08.04.01 11.08.04.02 11.08.04.03	Identify different types of isolation  Demonstrate mask and gown technique  Demonstrate double bagging technique
11.08.04.01 11.08.04.02 11.08.04.03 11.08.04.04	Identify different types of isolation  Demonstrate mask and gown technique  Demonstrate double bagging technique  Demonstrate procedures for disposal of soiled materials
11.08.04.01 11.08.04.02 11.08.04.03 11.08.04.04 11.08.05.00	Identify different types of isolation  Demonstrate mask and gown technique  Demonstrate double bagging technique  Demonstrate procedures for disposal of soiled materials  Maintain infection control of work area
11.08.04.01 11.08.04.02 11.08.04.03 11.08.04.04 11.08.05.00 11.08.05.01	Identify different types of isolation  Demonstrate mask and gown technique  Demonstrate double bagging technique  Demonstrate procedures for disposal of soiled materials  Maintain infection control of work area  Contain used linens
11.08.04.01 11.08.04.02 11.08.04.03 11.08.04.04 11.08.05.00 11.08.05.01 11.08.05.02	Identify different types of isolation  Demonstrate mask and gown technique  Demonstrate double bagging technique  Demonstrate procedures for disposal of soiled materials  Maintain infection control of work area  Contain used linens  Clean and disinfect sink



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11.08.06.00	Apply principles of aseptic techniques and sterility of medical equipment and instruments
11.08.06.01	Read and follow manufacturer's instructions for safe operations of all equipment and instruments
11.08.06.02	Apply and maintain infection control in cabinets and drawers
11.08.06.03	Prescrub instruments
11.08.06.04	Sterilize instruments
11.08.06.05	Store sterilized equipment and supplies
11.08.06.06	Maintain quality-control log

# HIV/AIDS Education (Mult 171)

11.09.01.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the virus
11.09.01.01	Define "HIV"
11.09.01.02	Define "AIDS"
11.09.01.07	Define the "Immune System"
11.09.01.09	Define "Antibodies"
11.09.01.10	Discuss what happens when someone gets the virus that causes AIDS
11.09.01.12	Explain the incubation period for AIDS
11.09.01.13	Discuss how AIDS is diagnosed
11.09.01.16	Discuss how long the virus survives outside the body
11.09.01.17	Define "Opportunistic Infections"



Common Core	
11 <b>.09.02.0</b> 0	Demonstrate knowledge of the essential facts about HIV and AIDS and transmission and prevention
11.09.02.01	Explain how AIDS is spread
11.09.02.09	Discuss the risks of health care workers getting AIDS on the job
11.09.02.10	Discuss the risks of being a patient in a doctor's or dentist's office
11.09.02.11	Explain universal precautions
11.09.02.12	Identify the steps to cleaning up blood spills on the floor
11.09.02.27	Identify the steps to cleaning needles guarding against AIDS
11.09.02.28	Identify the drugs associated with getting AIDS
11.09.02.29	Discuss the risks of sharing needles and syringes for the I-V drug user
11.09.02.30	Discuss AIDS and saliva, tears, urine and feces
11.09.02.31	Recognize the risks of AIDS and human bites
11.09.03.00	Demonstrate knowledge of the essential facts about HIV and AIDS and casual contact
11.09.03.01	Recognize the fact that you cannot get AIDS from casual contact such as sharing a drinking glass, public toilets, drinking fountains, telephones, public transportation. swimming pools, hugging or touching
11.09.04.00	Demonstrate knowledge of the essential facts about HIV and AIDS - getting tested
11.09.04.01	Discuss when someone should get tested to find out if they are infected
11.09.04.02	Define "Confidential Testing"
11.09.04.03	Define "Anonymous Testing"



Common Core	
11.09.04.04	Identify where people can get tested
11.09.04.05	Identify the time period between exposure and testing
11.09.05.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the blood supply and related issues
11.09.05.01	Discuss the facts of donating blood and AIDS
11.09.05.02	Discuss the risks of blood transfusions
11.09.05.03	Identify the procedures taken by the Red Cross to protect the blood supply
11.09.06.00	Demonstrate knowledge of the essential facts about HIV and AIDS and children with HIV
11.09.06.01	Explain how babies and young children get AIDS
11.09.06.03	Discuss the probability of a baby testing positive meaning that he or she has HIV
11.09.06.04	Discuss how soon you can test a baby for HIV
11.09.06.08	Explain that AIDS is not transmitted in children through vomit, urine or feces
11.09.06.09	Identify that there is no risk of getting AIDS from a child through contact sports unless there is blood involved
11.09.07.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the social impact
11.09.07.01	Identify the laws protecting people with AIDS from discrimination
11.09.07.02	Identify the federal and state laws protecting a person with AIDS from being fired from their job
11.09.07.03	Recognize how AIDS affects the workplace



Common Core	
11.09.07.05	Discuss testing the health care worker for AIDS
11.09.07.06	Define "Needle-Exchange" programs
	The same of the sa
11.09.08.00	Identify additional facts about the AIDS virus
11.09.08.01	Define "ARC"
11.09.08.02	Explain AIDS-related complex
11.09.08.09	Identify the changes made recently in the way the CDC defines AIDS
11.09.08.13	Define "HIV-2"
11.09.08.14	Discuss the second HIV virus
11.09.08.21	Define "Pneumocystic Carinii"
11.09.08.22	Define "Kaposi's Sarcoma"
11.09.08.23	Explain how AZT works
11.09.09.00	Identify additional facts about transmission and prevention of AIDS
11.09.09.02	Discuss the "Risk not reported or identified" category
11.09.09.11	Define "nonoxynol-9"
11.09.09.12	Define "Parenteral Transmission"
11.09.09.14	Explain why crack is associated with AIDS
11.09.09.17	Explain why police and firefighters wear gloves when dealing with people who might have AIDS
11.09.10.00	Identify additional facts about testing and AIDS
11.09.10.01	Explain how you test for AIDS



Common Core	
11.09.10.02	Discuss the effectiveness of the antibody blood tests
11.09.10.03	Explain why people are counseled before and after testing
11.09.11.00	Identify additional facts about blood supply and related services and AIDS
11.09.11.01	Discuss freezing blood and the effect on HIV
11.09.11.02	Discuss storing blood and the effect on HIV
11.09.11.03	Explain the development of antibodies to HIV after blood is collected
11.09.11.04	Identify the risks of becoming infected from a transfusion
11.09.11.11	Explain the process of screening for AIDS in a sperm bank
11.09.11.12	Explain the process of screening for AIDS in an organ bank
11.09.11.13	Discuss AIDS and the hepatitis B vaccine
11.09.12.00	Identify additional facts about children with HIV infection
11.09.12.05	Define "Perinatal transmission"
11.09.12.12	Explain why some babies of infected mothers get HIV
11.09.12.13	Discuss the risk of an HIV infected mother giving it to the baby
11.09.12.15	Discuss the difference of AIDS in babies and children compared to AIDS in adults
11.09.12.18	Explain the types of medicine doctors give children with HIV
11.09.12.19	Discuss children with AIDS and vaccinations
11.09.13.00	Identify additional facts about the social impact of HIV infection
11.09.13.01	Discuss the costs of medical care for a person who has AIDS



Common Core	
11.09.13.02	Discuss what might change the estimates of future medical costs of AIDS
11.09.13.04	Recognize the difficulty people with AIDS have getting new health insurance
11.09.13.05	Discuss the kinds of medical care for people with AIDS covered by Medicaid
11.09.13.07	Explain how the federal government divides up money for different AIDS activities
11.09.13.08	Discuss testing patients for HIV for the protection of the health care worker
11.09.14.00	Identify additional facts about first aid, CPR and aquatics and AIDS
11.09.14.01	Discuss the safety in the use of manikins during CPR
11.09.14.02	Explain the decontamination process of the manikins for HIV
11.09.14.06	Recognize the person with AIDS as being a candidate for certification of CPR
11.09.14.07	Discuss modifying the First Aid and CPR requirements with the employer for the safety of all persons
11.09.14.08	Discuss the risks involved in performing CPR on someone when you are infected with HIV
11.09.14.09	Discuss the risks of becoming infected with HIV from receiving CPR from a person who is HIV infected
11.09.14.10	Discuss the personal, moral and ethical considerations, not legal obligations, of helping someone who is bleeding who might have AIDS
11.09.14.11	Recognize the risks of being a member of a First Aid team and contacting AIDS

Recommended Assessment: American Red Cross Certification



Common Core

## Community First Aid and Safety

(Mult 102, Mult 103)

11.10.01.00	Respond as a citizen and help in an emergency
11.10.01.01	Recognize an emergency
11.10.01.02	List the 3 general steps in the emergency plan
11.10.01.03	Call EMS and give necessary information
11.10.01.04	Demonstrate how to check a conscious or an unconscious victim
11.10.02.00	Respond to a breathing cardiac emergency in an adult
11.10.02.01	List the signals of a breathing emergency
11.10.02.02	List the signals of a heart emergency
11.10.02.03	Demonstrate how to care for a person who is not breathing
11.10.02.04	Demonstrate how to care for a person who is choking
11.10.02.05	Demonstrate how to care for a person who is in cardiac arrest
11.10.02.06	List four risk factors associated with increased incidence of cardiovascular disease
11.10.03.00	Respond to a breathing or cardiac emergency in infants and children
11.10.03.01	List at least 4 signals of a breathing emergency for an infant child
11.10.03.02	Demonstrate how to care for an infant or child who is not breathing
11.10.03.03	Demonstrate how to care for an infant or child who is choking
11.10.03.04	Demonstrate how to care for an infant or child whose heart has stopped
11.10.03.05	List the four leading causes of childhood death



Common Core	
11.10.03.06	List three ways to help prevent childhood injuries
11.10.04.00	Recognize and care for victims of illness and sudden injuries
11.10.04.01	Recognize an injury or sudden illness
11.10.04.02	Demonstrate how to control bleeding
11.10.04.03	Demonstrate how to care for muscle, bone, and joint injuries
11.10.04.04	Describe how to care for sudden illnesses
11.10.04.05	List the general care steps for burns

Recommended Assessment: American Red Cross Adult CPR; American Red Cross Infant CPR; American Red Cross Standard First Aid; and American Heart Association Basic Life Support C for the Health Care Provider.

#### Nurse Aide Training Program

(Mult 120)

11.11.01.00	Introduce the NATP
11.11.01.01	Identify the purpose of the NATP
11.11.01.02	List the role and responsibility of the trainer and NA
11.11.01.03	State the purpose of the CEP conducted by the director
11.11.01.04	Describe how to be recorded in Ohio's Nurse Aide Registry
11.11.01.05	Show employment verification required every 24 months
11.11.01.06	Use information about Ohio's Nurse Aide Registry (NAR)
11.11.01.07	Describe how mistreatment, abuse and neglect by NA are reported and recorded in Ohio
11.11.01.08	Explain the in-service requirement



Common Core	
11.11.01.09	Explain how to receive information related to state testing
11.11.01.10	Discuss the differences between state tested and certified
11.11.02.00	Demonstrate knowledge of work environment
11.11.02.01	Describe the responsibilities of the LTCF governing body and staff
11.11.02.02	Identify other individuals the NA may encounter
11.11.03.00	State role and responsibility of nurse aide
11.11.03.01	Perform bedside nursing care
11.11.03.02	Maintain care of resident's unit
11.11.03.03	Provide nourishment
11.11.03.04	Provide record keeping and communication
11.11.03.05	Promote residents' rights
11.11.03.06	Maintain confidentiality
11.11.03.07	Set priorities
11.11.04.00	Demonstrate knowledge of policy and procedure manuals
11.11.04.01	Identify the purpose of the facility policy and procedures manual
11.11.04.01	identify the purpose of the facility policy and procedures manda.
11.11.05.00	Demonstrate knowledge of professional attitudes and appearance
11.11.05.01	Identify desirable attitudes and actions which will lead to successful job performance for the NA
11.11.05.02	Discuss desirable personal grooming habits for the NA



Common Core	
11.11.06.00	Demonstrate knowledge of communication and interpersonal skills
11.11.06.01	Describe attitudes which promote communication between people
11.11.06.02	Identify behaviors which will help accomplish effective communication between the NA and residents
11.11.06.03	List factors which promote good communication among the NA and the resident, resident's family and friends
11.11.06.04	List factors which may block effective communication between the resident and their family and friends
11.11.06.05	List factors which promote effective communication between the NA and their immediate supervisor
11.11.06.06	List factors which block effective communication with the immediate supervisor
11.11.06.07	List steps for answering the resident's call signal
11.11.06.08	Identify techniques which promote effective communication using the telephone or intercom
11.11.07.00	Communicate and interact with the impaired resident
11.11.07.01	Describe appropriate communication techniques for vision, hearing, speech and/or physically impaired residents
11.11.07.02	Identify techniques to communicate with the confused, withdrawn, depressed, agitated, restless resident
11.11.07.03	List methods to communicate with the combative resident
11.11.08.00	Demonstrate knowledge of resident comprehensive assessment, care plan and care conference
11.11.08.01	State the purpose of a resident comprehensive assessment
11.11.08.02	State the purpose of a resident care plan



Common Core	
11.11.08.03	State the purpose of the resident care conference
11.11.08.04	Identify the role of the NA in the care planning process
11.11.08.05	Describe the NA's role in gathering and documenting information on the worksheet
11.11.09.00	Demonstrate knowledge of legal responsibilities
11.11.09.01	Identify key legal aspects of resident care as they relate to the role of the NA
11.11.09.02	Identify the NA's role and responsibility regarding negligent behavior by the NA and the reporting of abuse, mistreatment, and/or neglect of a resident
11.11.09.03	Discuss the importance of keeping the resident's personal information confidential
11.11.09.04	Identify the purpose of the incident/accident reports
11.11.09.05	Discuss the NA responsibility for own actions
11.11.10.00	Demonstrate knowledge components of medical records
11.11.10.01	Identify the purpose of the medical record
11.11.10.02	Identify ways the NA can contribute to the medical record
11.11.10.03	Identify common medical abbreviations
11.11.10.04	Identify proper methods of documentation
11.11.11.00	Identify basic principles of infection control
11.11.11.01	Identify the basic principles of infection control
11.11.11.02	Identify reasons why infection prevention and control is important



Common Core	
11.11.11.03	Identify factors which promote growth of microorganisms
11.11.11.04	Identify ways pathogenic microorganisms are spread
11.11.11.05	Identify practices which hinder the spread of infection
11.11.12.00	Prevent the growth and spread of pathogenic microorganisms
11.11.12.01	Discuss reasons for correct hand washing
11.11.12.02	Demonstrate effective hand washing techniques
11.11.12.03	Identify methods used to control or eliminate microorganisms on supplies and equipment
11.11.12.04	Describe the difference between clean, contaminated and sterile
11.11.13.00	Identify signs and symptoms of infection and use of universal precautions
11.11.13.01	Identify signs and symptoms of infection
11.11.13.02	State the purpose of universal precautions as defined in OAC
11.11.13.03	Demonstrate universal precaution techniques as defined in Chapter 3734 ORC
11.11.13.04	Demonstrate Respiratory Isolation techniques
11.11.14.00	Practice general safety practices and procedures
11.11.14.01	Identify reasons to apply safety precautions in LTCFs.
11.11.14.02	Identify safety precautions which help to prevent residents from falling
11.11.14.03	Identify precautions the NA should take to prevent residents from being burned



Common Core	
11.11.14.04	Identify safety precautions the NA should take to help prevent resident falls from beds, chairs and wheelchairs
11.11.14.05	Identify the safety precautions the NA should take to help prevent the resident from choking
11.11.14.06	Identify precautions the NA should take to help prevent ingestion of harmful substances by residents
11.11.14.07	Demonstrate the steps of the Heimlich Maneuver
11.11.14.08	Identify measures the NA should take should a resident ingest a harmful substance
11.11.15.00	Practice safety procedures when using oxygen and oxygen equipment
11.11.15.01	Identify safety precautions for oxygen use
11.11.15.02	Demonstrate a safety check of oxygen equipment
11.11.16.00	Demonstrate fire prevention practices and procedures to follow in case of fire disaster
11.11.16.01	Identify measures which should be taken to prevent fires in a LTCF
11.11.16.02	Describe causes of fires in LTCFs
11.11.16.03	Identify actions to take when a fire is discovered
11.11.16.04	Demonstrate fire carries
11.11.16.05	Identify examples of hazardous conditions that should be reported for correction
11.11.16.06	Name devices which are used or activated when a fire occurs in a LTCF



Common Core	
11.11.17.00	Demonstrate knowledge of natural disaster preparedness
11.11.17.01	Discuss safety measures to be taken when there is a threat of a tornado or other natural disaster.
11.11.18.00	Practice principles of ergonomics, body mechanics and body alignment
11.11.18.01	Define and discuss Ergonomics as it applies to the NA
11.11.18.02	Define Body Mechanics
11.11.18.03	Identify and demonstrate the rules of good body mechanics
11.11.18.04	Demonstrate general principles for lifting and moving residents
11.11.18.05	Describe correct body alignment
11.11.18.06	Explain why correct body alignment is important
11.11.18.07	Demonstrate correct positioning of a person in proper body alignment
11.11.18.08	Describe the posture most commonly found among the elderly
	VI. and amplication of most mints
11.11.19.00	Use and application of restraints
11.11.19.01	Describe the purpose of restraints
11.11.19.02	Identify guidelines to follow in the application of restraints
11.11.19.03	Describe observations to make on the resident with restraints
11.11.19.04	Define various types of commonly used restraints for the LTCF
11.11.19.05	Demonstrate how to safely apply restraints



Common Core	
11.11.20.00	Demonstrate use of wheelchairs, geriatric chairs, lifts, ambulation devices and techniques
11.11.20.01	Identify and discuss the safety precautions involved in the use of wheelchairs and geriatric chairs
11.11.20.02	Demonstrate safe use of wheelchairs and geriatric chairs
11.11.20.03	Describe the types and purposes of hydraulic lifts
11.11.20.04	Identify and demonstrate safety precautions involved in the operation of portable hydraulic lifts to move residents
11.11.20.05	Identify safe and proper uses of walkers, canes and crutches
11.11.20.06	Demonstrate the safe way to assist a resident to walk
11.11.21.00	Promote the residents' independence
11.11.21.01	Identify losses, both physical and psychosocial, which may decrease independence
11.11.21.02	Identify some of the aspects of independent living a person may lose when they reside in a LTCF
11.11.21.03	Demonstrate positive ways a NA can promote the resident's independence
11.11.21.04	Name or list types of choices available to the resident to gain the highest level of independence
11.11.22.00	Respect residents' rights
11.11.22.01	Identify legal rights of the resident contained in the Ohio Resident Bill
	of Rights (ORBR)



Common Core	
11.11.23.00	Practice observational skills
11.11.23.01	Discuss the importance of observation
11.11.23.02	Describe various observation techniques
11.11.23.03	Identify observations to be made during resident care
11.11.23.04	Describe how to report and record observations
11.11.24.00	Recognize changes in body functioning
11.11.24.01	Describe how the NA might recognize that a resident has impaired vision
11.11.24.02	Describe changes in vision which may accompany aging
11.11.24.03	Name diseases which may cause visual impairment
11.11.24.04	Demonstrate ways to change the environment to encourage the visually impaired resident's independence and to promote safety
11.11.24.05	Identify warning signs of hearing impairment
11.11.24.06	Describe changes in hearing which may accompany aging
11.11.24.07	Demonstrate ways to modify communication to a person with a hearing loss
11.11.24.08	Discuss the use and care of hearing aids
11.11.24.09	List actions to help prevent injury to the resident with impaired touch
11.11.24.10	Describe changes in behavior which may follow loss of the senses of taste and smell
11.11.24.11	List ways to aid the resident who has losses of taste and smell
11.11.24.12	Describe how the changes of aging may affect gastrointestinal function



Common Core	
11.11.24.13	Describe the special care the NA might give a resident with a digestive disorder
11.11.24.14	Identify descriptions of reproductive system disorders
11.11.24.15	Describe changes of aging which affect the musculoskeletal system
11.11.24.16	Identify measures the NA can do to assist the resident with musculoskeletal diseases or problems
11.11.25.00	Recognize signs and symptoms of common diseases
11.11.25.01	Describe the changes of aging which may affect the heart and blood vessels
11.11.25.02	Identify changes the resident may experience as a result of decreased cardiovascular function and the appropriate NA actions
11.11.25.03	Identify changes the resident may experience as a result of decreased respiratory function
11.11.25.04	Identify measures to aid the resident with shortness of breath
11.11.25.05	Identify the common signs and symptoms of diabetes
11.11.25.06	Identify the three key components of the diabetic resident's treatment plan
11.11.25.07	List possible complications of Diabetes and related NA actions
11.11.25.08	Describe changes of aging which may affect urinary function
11.11.25.09	Identify how the NA can help promote good kidney function
11.11.25.10	Identify the primary nervous system changes due to aging
11.11.25.11	Identify common nervous system disorders found among the elderly
11.11.25.12	Identify actions which maintain the safety and dignity of the resident who has nervous system disorders



Common Core	
11.11.26.00	Create a homelike environment in a Long Term Care Facility
11.11.26.01	Identify major items in the resident's unit
11.11.26.02	Identify measures to keep the resident's environment comfortable
11.11.26.03	Demonstrate tasks necessary to assure that the resident's unit is properly maintained
11.11.27.00	Use bedmaking techniques and comfort measures for the bed bound resident
11.11.27.01	State reasons why bedmaking techniques are important for the bed bound resident
11.11.27.02	Demonstrate types of bedmaking and identify when each is appropriate
11.11.27.03	Demonstrate measures which promote comfort for the resident
11.11.28.00	Admit and discharge a resident
11.11.28.01	Identify feelings the resident and family may have at the time of admission
11.11.28.02	Identify actions the NA may take to assist the resident during admission
11.11.28.03	Identify feelings the resident may have when discharged
11.11.29.00	Provide a positive mealtime experience
11.11.29.01	Discuss how to promote a positive atmosphere at mealtime
11.11.29.02	Identify devices and techniques which may be used to help the resident maintain independence while eating
11.11.29.03	Describe and demonstrate how to feed a resident
11.11.29.04	State how to identify a choking victim



Common Core	
11.11.30.00	Provide adequate nutrition and fluid needs
11.11.30.01	Discuss factors which affect the nutritional state of the resident
11.11.30.02	Name examples of a modified diet
11.11.30.03	Identify the NA's responsibility for residents who require a therapeutic diet
11.11.30.04	Describe the role of the dietary department in providing nutrition for the resident
11.11.30.05	Identify the importance of adequate hydration
11.11.30.06	Describe a method to encourage fluid intake
11.11.31.00	Measure height and weight
11.11.31.01	Discuss why a resident's weight is regularly measured and recorded
11.11.31.02	Describe and demonstrate how to weight a resident accurately
11.11.31.03	Describe and demonstrate how to measure and record a resident's height accurately
11.11.32.00	Observe and measure vital signs
11.11.32.01	Identify abbreviations of the vital signs
11.11.32.02	Identify the cause of body temperature
11.11.32.03	Identify the "normal" or average body temperature
11.11.32.04	List situations which may cause the thermometer reading to vary from "normal or average"
11.11.32.05	Identify types of thermometers and situations in which they are used
11.11.32.06	Demonstrate how to care for glass thermometers



Common Core			
11.11.32.07	Describe each method of check temperatures		
11.11.32.08	Identify how the NA should record and report temperature measurements		
11.11.32.09	State the "normal" or average pulse rate		
11.11.32.10	Identify variations from the "normal" pulse which should be reported		
11.11.32.11	Demonstrate the accurate taking of a radial and apical pulse		
11.11.32.12	Discuss how to record and report pulse measurement		
11.11.32.13	State the average respiratory rate		
11.11.32.14	Describe how to measure respiratory rate		
11.11.32.15	Discuss how to record and report the respiratory rate measurement		
11.11.32.16	Identify what causes blood pressure		
11.11.32.17	State the "normal" or average blood pressure		
11.11.32.18	Describe variations in blood pressure		
11.11.32.19	Identify instruments to check blood pressure		
11.11.32.20	Describe how to check blood pressure		
11.11.32.21	Identify how to record and report blood pressure measurements		
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11.11.33.00	Provide oral hygiene		
11.11.33.01	Name goals for oral hygiene		
11.11.33.02	Identify general practices for oral hygiene		
11.11.33.03	State and demonstrate the correct method for brushing a resident's teeth		



Common Core	
11.11.33.04	Identify and demonstrate how to safely care for the resident's dentures
11.11.33.05	Describe safe mouth care for the unconscious resident or the resident who cannot take food orally
11.11.34.00	Give a bath
11.11.34.01	Discuss factors which affect a resident's hygiene needs and practices
11.11.34.02	Identify the purposes of bathing
11.11.34.03	Identify general guidelines to follow when bathing the resident including measures for privacy and safety
11.11.34.04	Demonstrate a bedbath and identify actions which promote comfort for the resident while being bathed
11.11.34.05	Identify situations in which perineal care should be given
11.11.34.06	Discuss how whirlpool baths are given
11.11.34.07	Demonstrate how shower and tub baths are given
11.11.35.00	Perform additional personal care skills
11.11.35.01	State why, when, and how a backrub is given
11.11.35.02	Discuss and demonstrate how to dress and undress the resident
11.11.35.03	Name 3 assistive devices that may be used in dressing/undressing a resident
11.11.35.04	Discuss the care of the resident's hair
11.11.35.05	State why it is important to comb resident's hair every day
11.11.35.06	Discuss the care of a residents fingernails and toenails
11.11.35.07	Discuss shaving the resident's facial hair



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11.11.36.00	Provide special skin care
11.11.36.01	Describe the signs and symptoms of a decubitus ulcer
11.11.36.02	Identify locations which are prone to ulcer formation
11.11.36.03	Describe the conditions which predispose the elderly to decubitus ulcer formation
11.11.36.04	Discuss and identify ways to prevent decubitus ulcers
11.11.36.05	Describe measures to provide skin care and comfort for the incontinent resident
11.11.37.00	Care for urinary elimination needs and urinary catheters
11.11.37.01	Locate on a chart, name, and briefly state the function of the kidneys, ureters, urethra and bladder
11.11.37.02	Identify ways in which urinary function may be altered in the aged person
11.11.37.03	Correctly use the terms for urinating, urine, and void
11.11.37.04	Describe normal and abnormal appearance of urine and abnormal sensation while urinating
11.11.37.05	List signs and symptoms of urinary tract infections and actions the NA may take to decrease the incidence of these infections
11.11.37.06	Recognize the way in which a urinary catheter works
11.11.37.07	Identify steps which maintain the catheter as a closed drainage system and help prevent urinary tract infection
11.11.37.08	Identify measures which will help keep a urinary catheter draining correctly, observations which indicate it is not draining
11.11.37.09	Identify measures to avoid injury to the bladder opening from pressure on the catheter



Common Core	
11.11.37.10	Identify observations one should make about the catheterized resident
11.11.37.11	Identify the correct use of a leg bag to collect catheterized urine
11.11.37.12	Describe an external catheter and identify measures for using it correctly
11.11.37.13	Identify causes of incontinence
11.11.37.14	Describe measures to provide skin care and comfort for the incontinent resident
11.11.37.15	Describe measures to prevent incontinence
11.11.38.00	Perform toileting procedures
11.11.38.01	Identify and demonstrate correct procedure for assisting a resident with a bedpan or fracture pan
11.11.38.02	Identify the correct procedure for assisting the resident with using a urinal
11.11.38.03	Identify the correct procedure for assisting the resident with using the bedside commode or toilet
11.11.39.00	Measure intake and output
11.11.39.01	Identify what is meant by fluid balance, fluid imbalance, and effect of aging on fluid balance
11.11.39.02	Identify the reasons for measuring intake and output. State the abbreviations
11.11.39.03	Identify and demonstrate the procedure for measuring and recording fluid intake
11.11.39.04	Identify what is meant by the terms: force fluids, restrict fluids and NPO
11.11.39.05	Discuss and demonstrate the procedure for measuring output



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11.11.40.00	Demonstrate knowledge of functions of the bowel
11.11.40.01	Discuss the normal structure and function of the lower intestinal tract
11.11.40.02	Identify the terms used for bowel elimination
11.11.40.03	Describe the normal and abnormal appearance of feces
11.11.40.04	Identify affects of aging on function of the lower intestinal tract
11.11.40.05	Identify signs which may indicate that a resident is constipated
11.11.40.06	Identify measures which may be part of a resident's care in order to prevent or relieve constipation
11.11.40.07	Identify what is meant by fecal impaction
11.11.40.08	Identify symptoms which might indicate that a resident has a fecal impaction
11.11.40.09	Identify causes of fecal impaction in the elderly
11.11.40.10	Identify the role of the NA in preventing fecal impaction
11.11.40.11	Identify causes of incontinence and measures for caring for the resident who is incontinent of feces
11.11.41.00	Discuss developmental tasks, stereotype myths, and basic facts and statistics about the elderly
11.11.41.01	List the developmental tasks associated with the aging process
11.11.41.02	List basic facts and statistics about the elderly
11.11.41.03	List some of the stereotypes about aging which are prevalent in our society



Common Core	
11.11.42.00	Recognize basic emotional needs of residents
11.11.42.01	Identify basic emotional needs of residents in a LTCF
11.11.42.02	Describe ways that the NA can use to meet the emotional needs of the resident
11.11.42.03	List ways that the NA can change their own response to the resident's behavior
11.11.43.00	Recognize factors which promote rest and relaxation
11.11.43.01	Discuss factors which influence the residents' sleep
11.11.43.02	Identify actions the NA may take to help the resident sleep
11.11.44.00	Recognize sexuality in aging
11.11.44.01	Identify some of the physical changes which may affect sexuality in the aging person
11.11.44.02	Identify some of the social aspects of sexual function in the elderly
11.11.44.03	Discuss appropriate NA response to perceived sexual advances from a resident
11.11.45.00	Demonstrate knowledge of special needs populations
11.11.45.01	Define mental health
11.11.45.02	Identify the general characteristics of persons who are mentally ill
11.11.45.03	Define mental retardation
11.11.45.04	Identify components of program services for residents who may be mentally retarded



Common Core	
11.11.45.05	List methods to identify and utilize the resident's strengths as a way to reinforce appropriate behavior or reduce or eliminate inappropriate behavior
11.11.45.06	Identify behaviors the NA should use while caring for residents who are mentally retarded or mentally ill
11.11.46.00	Care for the confused or withdrawn resident
11.11.46.01	Identify some of the possible causes of confusion
11.11.46.02	Identify symptoms which indicate a resident may be confused
11.11.46.03	Identify psychosocial implications of confusion for the resident (how the person feels and interacts with others)
11.11.46.04	Identify ways in which some of the causes of confusion may be minimized
11.11.46.05	Identify behaviors which may be seen in the person who is withdrawn
11.11.46.06	Identify some causes of withdrawn behavior
11.11.46.07	Identify acceptable therapeutic interventions for the confused and/or withdrawn resident
11.11.46.08	Identify appropriate NA responses to combative behavior
11.11.47.00	Care for the dying resident
11.11.47.01	Identify some of American society's attitudes about death
11.11.47.02	Identify the 5 stages of reaction to approaching death. For each, identify behaviors the dying person might demonstrate
11.11.47.03	Identify the emotional needs of the resident experiencing death
11.11.47.04	Describe responses by the nurse aide to emotional needs of the dying resident



Common Core	
11.11.47.05	Identify emotions which may be experienced in response to the death of others
11.11.47.06	State the importance of and ways to acknowledge the death of a resident in a LTCF
11.11.47.07	Identify physical sign of approaching death
11.11.47.08	Identify care measures which the NA should provide for the dying resident
11.11.47.09	Discuss the recognition and consideration of the family
11.11.47.10	Identify the meaning for the term "post-mortem care" and the steps involved in providing post-mortem care
11.11.47.11	Identify the impact spiritual beliefs have on the emotional needs of residents
11.11.48.00	Prevent complications of immobility
11.11.48.00 11.11.48.01	Prevent complications of immobility  List the negative effects of immobility on the body
11.11.48.01	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in
11.11.48.01 11.11.48.02	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible  Identify the purpose, safety precautions and who may assist a resident
11.11.48.01 11.11.48.02 11.11.48.03	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible  Identify the purpose, safety precautions and who may assist a resident during range of motion exercises
11.11.48.01 11.11.48.02 11.11.48.03 11.11.48.04	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible  Identify the purpose, safety precautions and who may assist a resident during range of motion exercises  Describe the differences between active and passive range of motion  Identify the procedures used to assist with active and passive ROM
11.11.48.01 11.11.48.02 11.11.48.03 11.11.48.04 11.11.48.05	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible  Identify the purpose, safety precautions and who may assist a resident during range of motion exercises  Describe the differences between active and passive range of motion  Identify the procedures used to assist with active and passive ROM exercises for all joints
11.11.48.01 11.11.48.02 11.11.48.03 11.11.48.04 11.11.48.05 11.11.48.06	List the negative effects of immobility on the body  Describe the activities to be encouraged in order that residents in LTCFs may participate in their own self-care whenever possible  Identify the purpose, safety precautions and who may assist a resident during range of motion exercises  Describe the differences between active and passive range of motion  Identify the procedures used to assist with active and passive ROM exercises for all joints  Identify measures which help prevent complications of immobility



Common Core	
11.11.48.09	Identify and demonstrate appropriate body alignments for residents in the sitting and lying position
11.11.49.00	Recognize components of bowel and bladder program
11.11.49.01	Identify the goals of a bowel and bladder program
11.11.49.02	Identify factors which go into preparing a bowel/bladder training program
11.11.49.03	Identify the steps involved in bowel training
11.11.49.04	Identify steps involved in bladder training
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11.11.50.00	Demonstrate knowledge of prosthetic devices
11.11.50.01	Describe the purpose and types of prosthetic devices
11.11.50.02	Apply prosthetic devices with direction of charge nurse
11.11.50.03	Store prosthetic devices appropriately when they are not in use
11.11.51.00	Recognize the right to participation in activities, to voice complaints, and make personal choices
11.11.51.01	Identify ways to help the resident be active in family, groups, self-care, and facility sponsored activities
11.11.51.02	Describe methods of assisting the resident to vote
11.11.51.03	Define the term "personal choices" and state examples of the resident's personal choices
11.11.51.04	Discuss ways to enforce facility rules/regulations which govern resident conduct
11.11.51.05	Demonstrate techniques to help the resident resolve grievances or complaints



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Common	Core

11.11.51.06	Describe the basic role of the Ohio Ombudsman Program and its relationship to the LTCF
11.11.52.00	Recognize the right to privacy
11.11.52.01	Describe methods of providing the resident with privacy
11.11.53.00	Recognize the right to confidentiality
11.11.53.01	Discuss what is meant by and define confidentiality
11.11.53.02	State examples of ways to maintain confidentiality
11.11.54.00	Identify right to freedom from abuse or unnecessary physical and chemical restraints
11.11.54.01	Define abuse, mistreatment and neglect and give examples
11.11.54.02	State examples of ways the NA can prevent abuse, mistreatment and neglect
11.11.54.03	Identify need/how to report any instances of abuse, mistreatment or neglect
11.11.54.04	Define chemical and physical restraint
11.11.54.05	Discuss examples of unnecessary physical or chemical restraints
11.11.54.06	Discuss ways to eliminate the need for chemical or physical restraint of the resident
11.11.55.00	Recognize the right of proper care and security of personal possessions
11.11.55.01	Describe ways to ensure the security of the resident's possessions

Recommended Assessment: The State of Ohio establishes the requirements for Ohio's Nurse Aide Training and Competency Evaluation program. Students completing these requirements are qualified to take the exam provided by the Ohio Department of Health. Passing the exam allows the student to work as a "State Tested" Nursing Assistant.



## **ELECTIVES**

Students will concentrate in three of the elective areas listed below. In addition, a required quarter of independent study with a career focus, a mentorship/internship at a worksite or post secondary enrollment is required.

#### Diagnostic Procedures

11.12.01.00	Perform basic EKG
11.12.01.01	Demonstrate knowledge of the various aspects and facets of Health Care:  *See Unit: Medical Terminology  *See Unit: Medical Law & Ethics  *See Unit: Career Exploration  *See Unit: Infection Control and Hazards Management  *See Unit: Safety and Infection Control  *See Unit: Employability Skills  *See Unit: The Medical Database
11.12.02.00	Demonstrate knowledge of the circulatory/cardiovascular system
	* See Unit: Anatomy/Physiology - Circulatory System
11.12.03.00	Perform circulation checks
11.12.03.01	Identify pulse sites
11.12.03.02	Take vital signs
11.12.03.03	Observe and report s/s of impaired circulation
11.12.03.04	Use doppler
11.12.04.00	Perform the EKG recording
11.12.04.01	Identify procedure changes with infants, amputees, dressings, etc.
11.12.04.02	Demonstrate knowledge of equipment maintenance
11.12.04.03	Identify cardiovascular pharmacology-drugs affecting EKG recording



Electives	
11.12.04.04	Perform a 12 lead EKG recording
11.12.04.05	Mount a 12 lead EKG
11.12.04.06	Clean EKG equipment
11.12.04.07	Recognize basic EKG rhythms and artifacts
11.12.04.08	Demonstrate holter monitor application
11.12.05.00	Demonstrate knowledge of cardiac pathology
	* See Unit: Anatomy/Physiology - Circulatory System
11.12.06.00	Demonstrate knowledge of dysrhythmia basics
11.12.06.01	Identify calculations of heart rate P-R intervals, QRS duration
11.12.06.02	Identify basics of dysrhythmia-sinus rhythm, bradycardia, tachycardia, PVC's, A-V block, etc.
11.12.07.00	Demonstrate knowledge of additional cardiac procedures
11.12.07.01	Explain Stress Testing
11.12.07.02	Explain Ambulatory EKG
11.12.07.03	Explain Echocardiography
11.12.07.04	Explain angiography
11.12.07.05	Explain Nuclear Medicine
11.12.07.06	Explain PTCA (percutaneous transluminal coronary angioplasty)
11.12.08.00	Perform CPR * See competency 11.10.01



ы	ectives	:

11.12.09.00	Assist with radiological procedures
11.12.09.01	Prepare and instruct patients on procedures
11.12.09.02	Develop X-rays
11.12.09.03	Identify and follow Occupational Safety and Health Administration (OSHA) regulations
11.12.10.00	Assist with pulmonary function testing
11.12.10.01	Perform spirometry tests
11.12.10.02	Set up and administer oxygen
11.12.10.03	Administer aerosol therapy
11.12.10.04	Explain pulse oximetry
11.12.11.00	Assist with allergy testing
11.12.11.01	Prepare tray
11.12.11.02	Perform scratch test
11.12.11.03	Perform patch test
11.12.12.00	Measure and record visual acuity using the Snellen chart
11.12.13.00	Measure and record visual acuity using the Jaegar chart
11.12.14.00	Measure and record color vision using the Ishahara chart
11.12.15.00	Measure hearing with the audiometer



Electives

## Laboratory Procedures

11.13.01.00	Demonstrate knowledge of infection control and laboratory safety
11.13.01.01	Identify lab safety policies and procedures
11.13.01.02	Discuss modes of disease transmission
11.13.01.03	Explain biohazards
11.13.01.04	Identify phlebotomy safety procedures
11.13.01.05	Demonstrate universal precautions
11.13.01.06	Identify OSHA standards and regulations
11.13.01.07	Identify CLIA standards and procedures
11.13.01.08	Demonstrate knowledge of infection control
11.13.01.09	Demonstrate isolation methods
11.13.01.10	Discuss first aid procedure for fainting
11 12 03 00	Perform drug screen testing
11.13.02.00	renorm drug screen testing
11.13.02.01	Demonstrate safe use of equipment
11.13.02.02	Read and record results properly
11.13.02.03	Discuss chain of command
11.13.03.00	Perform tuberculosis testing
11.13.03.01	Administer and interpret Tine test
11.13.03.02	Administer and interpret Mantoux test



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11.13.04.00	Assist with specimen collection and handling
11.13.04.01	Maintain laboratory supplies
11.13.04.02	Obtain specimens for cultures (e.g. body fluids)
11.13.04.03	Identify specimens
11.13.04.04	Evaluate suitability of specimen
11.13.04.05	Culture, grow and transfer specimen
11.13.04.06	Transport bacteria to outside lab
11.13.04.07	Collect and handle sputum
11.13.04.08	Collect and handle urine (e.g. clean catch and sterile specimens, 24 hour urine, three jar test)
11.13.04.09	Collect and handle stool specimen (e.g. for occult blood, ovum and parasites)
11.13.04.10	Use sterile technique when performing a culture
11.13.05.00	Demonstrate proper technique to perform venipuncture and capillary puncture
11.13.05.01	Identify collection equipment and supplies
11.13.05.02	Identify interfering substances
11.13.05.03	Identify additives
11.13.05.04	Identify special precautions
11.13.05.05	Identify puncture sites
11.13.05.06	Identify sterile and antiseptic site
11.13.05.07	Perform preparation of site



Electives	
11.13.05.08	Perform capillary puncture with lancet
11.13.05.09	Perform capillary puncture with autolet
11.13.05.10	Identify effect of tourniquet, heat, hand squeezing on collection
11.13.05.11	Perform needle insertion and withdrawal
11.13.05.12	Identify order of draw using a vacutainer and a syringe
11.13.05.13	Perform venipuncture on manikin arm using syringe
11.13.05.14	Perform venipuncture on manikin arm using vacutainer
11.13.05.15	Demonstrate patient identification procedures
11.13.05.16	Label specimen properly when collected
11.13.05.17	Demonstrate requisitioning
11.13.05.18	Process specimen
11.13.05.19	Transport specimen
11.13.05.20	Identify legal implications
11.13.05.21	Identify time constraints
	The control of the co
11.13.06.00	Perform microbiological identifications
11.13.06.01	Use the microscope
11.13.06.02	Obtain a throat culture
11.13.06.03	Identify bacteria using differential agar
11.13.06.04	Identify bacteria using gram stains



Electives

11.13.07.00	Perform routine urinalysis and urine diagnostics
11.13.07.01	Perform complete urinalysis (microscopic and chemical)
11.13.07.02	Perform tests for pregnancy
11.13.07.03	Perform chemical urinalysis
11.13.08.00	Perform manual and automated test of complete blood count (CBC)
11.13.08.01	Perform hematocrit (Hct)
11.13.08.02	Perform hemoglobin determination (hgB)
11.13.08.03	Perform red blood cell count (RBC)
11.13.08.04	Perform white blood cell count (WBC)
11.13.08.05	Perform white blood cell differential (Diff)
11.13.08.06	Perform erythrocyte sedimentation rate (ESR)
11.13.09.00	Perform serological tests
11.13.09.01	Prepare serum
11.13.09.02	Perform serum blood chemistries
11.13.09.03	Perform ABO and Rh typing according to CLIA regulations
11.13.09.04	Perform monospot test
11.13.09.05	Perform serum pregnancy test (HCG)

#### Laboratory Technology

11.14.01.00	Perform urinalysis procedures
11.14.01.01	Describe proper urine collection and preservation methods



Electives	
11.14.01.02	Perform a physical examination of urine
11.14.01.03	Perform a chemical examination of urine
11.14.01.04	Identify urine sediment
11.14.01.05	Perform a microscopic analysis of urine sediment
11.14.01.06	Perform tablet tests on urine samples to determine presence of glucose acetone
11.14.01.07	Perform urine pregnancy tests
11.14.01.08	Perform drug screens on urine samples using the On-Trak test kit
11.14.02.00	Perform hematology procedures
11.14.02.01	Perform a manual hemoglobin
11.14.02.02	Perform a micro-hematocrit
11.14.02.03	Perform and calculate blood cell counts using a hemacytometer
11.14.02.04	Perform red and white blood cell counts using the unopette system
11.14.02.05	Make and stain a blood smear
11.14.02.06	Perform a white blood cell differential count using normal healthy cells
11.14.02.07	Perform an erythrocyte sedimentation rate (ESR)
11.14.02.08	Operate an instrument capable of analyzing blood cell counts, such as a QBC II system
11.14.03.00	Perform biochemistry procedures
11.14.03.01	Operate desktop chemistry instruments as are used in a physician's office laboratory



Electives	
11.14.03.02	Perform chemistry tests most frequently performed in small laboratories
11.14.03.03	Perform clinical chemistry calculations
11.14.03.04	Operate a chemistry instrument integrated with a laboratory information system
11.14.03.05	Calibrate chemistry instruments
11.14.03.06	Perform quality control procedures
11.14.03.07	Plot control results on a graph and interpret graphed results
11.14.03.08	Perform simple laboratory mathematical calculations
11.14.03.09	Perform measurements using the metric system
11 14 04 00	Deufe um immunele au procedures
11.14.04.00	Perform immunology procedures
11.14.04.01	Perform ABO blood types
11.14.04.02	Perform RH blood types
11.14.04.03	Perform slide tests for infectious mononucleosis
11.14.04.04	Perform rapid plasma reagin (RPR) test for syphilis
11.14.04.05	Perform slide tests for rheumatoid arthritis
11 14 05 00	Perform microbiology procedures
11.14.05.00	renorm microbiology procedures
11.14.05.01	Operate a binocular microscope
11.14.05.02	Identify stained bacteria
11.14.05.03	Make a bacteriological smear
11.14.05.04	Perform and interpret gram stains



Electives	
11.14.05.05	Transfer bacteria from one culture medium to another
11.14.05.06	Inoculate and incubate culture media
11.14.05.07	Collect throat and urine specimens for bacterial culture
11.14.05.08	Perform a rapid test for Group A Streptococcus
11.14.05.09	Identify bacteria using differential culture media, biochemistry tests and gram stains
11.14.06.00	Perform quality control procedures
11.14.06.01	Explain the importance of quality control in the laboratory
11.14.06.02	Establish a quality assurance program for the operation of laboratory equipment
11.14.06.03	Perform calibration of laboratory instruments
11.14.06.04	Perform quality control testing for all laboratory procedures performed
11.14.06.05	Maintain records of control results
11.14.06.06	Use graph techniques to display quality control results
11.14.06.07	Store quality results on disk or on tape
11.14.07.00	Perform specimen processing procedures
11.14.07.01	Complete a daily log of specimens received
11.14.07.02	Process blood and body fluids
11.14.07.03	Centrifuge blood samples and separate serum/plasma
11.14.07.04	Label all transfer tubes properly and completely
11.14.07.05	Prepare specimens for shipment to a reference laboratory
11.14.07.06	Instruct patients on how to properly collect laboratory specimens



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11.14.08.00	Perform cardiopulmonary resuscitation (CPR)
11.14.08.01	Obtain and maintain CPR certification
11.14.08.02	Administer mouth-to-mouth rescue breathing
11.14.08.03	Administer CPR to infants and children
11.14.08.04	Administer CPR to adults
11.14.08.05	Administer care for obstructed airways for infants, children, and adults
11.14.09.00	Perform first aid procedures
11.14.09.01	Recognize signs and symptoms in a patient who is about to faint
11.14.09.02	Perform first aid measures for the fainting or nauseous patient
11.14.09.03	React to a patient who has a petit mal or grand mal seizure
11.14.09.04	Administer first aid to control bleeding
11.14.10.00	Perform electrocardiograms and measure vital signs
11.14.10.01	Perform and mount a 12 lead electrocardiogram
11.14.10.02	Measure and record oral temperature
11.14.10.03	Measure and record radial and jugular pulse rates
11.14.10.04	Count and record respiration
11.14.10.05	Measure and record blood pressure using proper cuff size
11.14.11.00	Maintain personal safety and hygiene
11.14.11.01	Demonstrate proper handwashing technique
11.14.11.02	Maintain clean uniforms



Electives	
11.14.11.03	Practice proper care and grooming of hair and nails for health care professionals
11.14.11.04	Practice safe pipetting techniques
11.14.11.05	Dispose of contaminated equipment
11.14.11.06	Clean spills and dispose of broken glass
11.14.11.07	Operate an autoclave
11.14.11.08	Maintain a clean workplace
11.14.11.09	Perform sterilization procedures in the laboratory
11.14.12.00	Comply with OSHA's Bloodbourne Pathogen Rule of June 1992
11.14.12.01	Comply with all safety measures discussed in the Bloodbourne Pathogen Rule
11.14.12.02	Discuss safety program established for the laboratory
11.14.12.03	Obtain Hepatitis B vaccinations
11.14.12.04	Wear uniform and personal protective clothing in the laboratory
11.14.13.00	Demonstrate isolation procedures
11.14.13.01	Identify the different types of isolation
11.14.13.02	Demonstrate procedures for disposal of soiled or contaminated materials
11.14.13.03	Demonstrate general principles of asepsis
11.14.13.04	Discuss nosocomial infections and their implications to all patients
11.14.13.05	List and perform protocol for obtaining a sterile site



Electives

11.14.14.00	Perform biochemistry procedure
11.14.14.01	Operate desktop chemistry instruments as are used in a physician's office laboratory (J&J DT 60, Vision, Reflotron, Cholestech, Serolyzer)
11.14.14.02	Perform chemistry tests most frequently performed in small laboratories (lipids, glucose, K+)
11.14.14.03	Perform clinical chemistry calculations (VLDL, LDL, Cholesterol/HDL ratio)
11.14.14.04	Operate a chemistry instrument integrated with a laboratory information system
11.14.14.05	Calibrate chemistry instruments
11.14.14.06	Perform quality control procedures
11.14.14.07	Plot control results on a graph and interpret graphed results
11.14.14.08	Perform measurements using the metric system
11.14.15.00	Perform immunology procedures
11.14.15.01	Perform ABO blood types
11.14.15.02	Perform RH blood types
11.14.15.03	Perform slide tests for infectious mononucleosis
11.14.15.04	Perform rapid plasma reagin (RPR) test for syphilis
11.14.15.05	Perform slide tests for rheumatoid arthritis
11.14.16.00	Perform microbiology procedures
11.14.16.01	Operate a binocular microscope
11.14.16.02	Perform and interpret gram stains



Electives	
11.14.16.03	Transfer bacteria from one culture medium to another
11.14.16.04	Inoculate and incubate culture media
11.14.16.05	Collect throat and urine specimens for bacterial culture
11.14.16.06	Perform a rapid test for Group A Streptococcus
11.14.16.07	Identify bacteria using differential culture media, biochemistry tests and gram stains
11.14.17.00	Perform quality control procedures
11.14.17.01	Explain the importance of quality control in the laboratory
11.14.17.02	Establish a quality assurance program for the operation of laboratory equipment
11.14.17.03	Perform calibration of laboratory instruments
11.14.17.04	Perform quality control testing for all laboratory procedures performed
11.14.17.05	Maintain records of control results
11.14.17.06	Use graph techniques to display quality control results
11.14.17.07	Store quality control results on disk or on tape
11.14.18.00	Perform specimen processing procedures
11.14.18.01	Complete a daily log of specimens received
11.14.18.02	Process blood and body fluids
11.14.18.03	Centrifuge blood samples and separate serum/plasma
11.14.18.04	Label all transfer tubes properly and completely
11.14.18.05	Prepare specimens for shipment to a reference laboratory



lect	ives

11.14.18.06	Instruct patients on how to properly collect laboratory specimens
11.14.19.00	Comply with CDC, NCCLS, CAP, ASCP and OSHA
11.14.19.01	Practice universal precautions when handling potentially hazardous specimens
11.14.19.02	Utilize safety shields, eye protection, and gloves when exposing body fluids
11.14.19.03	Wear personal protective clothing in the laboratory
11.14.19.04	Dispose of sharps correctly
11.14.19.05	Demonstrate proper handwashing techniques
11.14.19.06	Identify and label biohazardous specimens

# Phlebotomy Technology

(Mult 114, Mult 115)

(141011 114, 141011 115)	
11.15.01.00	Identify collection equipment, reagents and recite interfering factors that can be implicated in blood collections
11.15.01.01	List and describe equipment needed to collect blood specimens
11.15.01.02	Explain precautions and equipment needed to collect blood from a newborn infant
11.15.01.03	Identify anticoagulants, preservatives, and gels the vacuum tube color-codes
11.15.01.04	Evaluate anticoagulants, preservatives, and gels used in blood collection
11.15.01.05	Describe laboratory specimens and the phlebotomist's role in collecting, transporting these specimens to the laboratory
11.15.01.06	Describe substances that can interfere in the analysis of blood analytes



	114
Electives	
11.15.02.00	Requisition, process and transport specimens
11.15.02.01	List information required on laboratory requisition or computer order entry
11.15.02.02	Operate data processing and computer systems utilized in the laboratory
11.15.02.03	Describe the importance of adhering to time constraints and temperature needs
11.15.02.04	Discuss precautions for verbal test orders and verbal reporting
11.15.02.05	Describe routine and special procedures for transporting and processing specimens
11.15.02.06	Describe the use of transport and/or communication systems for specimens and data
11.15.02.07	Discuss routine "log-in" sheets and as manual back-up for computer systems
11.15.02.08	Describe specimen accession, identification and retention systems
11.15.02.09	Inspect and evaluate specimen suitability for the analysis requested
11.15.02.10	Centrifuge and aliquot specimen for distribution to the appropriate laboratory section
11.15.02.11	Prepare smears, droplets or mounts of the specimen for analysis
11.15.02.12	Evaluate results of quality control techniques in specimen collection
11.15.03.00	Perform micropuncture
11.15.03.01	Identify equipment used in micropuncture collections
11.15.03.02	Identify equipment used for infant and neonatal collection



11.15.03.03

adults

Determine the optimal sites for skin punctures on infants, children and

Electives	
11.15.03.04	Decontaminate puncture sites
11.15.03.05	Collect a blood sample using the unopette system
11.15.03.06	Collect a blood specimen using capillary tubes
11.15.04.00	Perform venipuncture
11.15.04.00	renorm vempuncture
11.15.04.01	Demonstrate protocol for patient identification
11.15.04.02	Perform a venipuncture using the vacuum system
11.15.04.03	Perform a venipuncture using the syringe system
11.15.04.04	Perform a venipuncture using a butterfly
11.15.04.05	Collect blood using multiple draw technique in the correct order of draw
11.15.05.00	Perform special collection procedures
11.15.05.00 11.15.05.01	Perform special collection procedures  Collect blood cultures
11.15.05.01	Collect blood cultures
11.15.05.01 11.15.05.02	Collect blood cultures  Set up and perform a glucose tolerance test
11.15.05.01 11.15.05.02 11.15.05.03	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens
11.15.05.01 11.15.05.02 11.15.05.03 11.15.05.04 11.15.05.05	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens  Describe procedure for collection of timed specimens  Describe procedure for collection and transport of specimens requiring special handling
11.15.05.01 11.15.05.02 11.15.05.03 11.15.05.04	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens  Describe procedure for collection of timed specimens  Describe procedure for collection and transport of specimens requiring
11.15.05.01 11.15.05.02 11.15.05.03 11.15.05.04 11.15.05.05	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens  Describe procedure for collection of timed specimens  Describe procedure for collection and transport of specimens requiring special handling



Electives	
11.15.06.03	Discuss reasons for having to collect blood from the hand, wrist or ankle
11.15.06.04	Describe the Allen test and the procedure for an arterial draw
11.15.07.00	Perform quality control procedure
11.15.07.01	Distinguish/perform quality control measures when collecting blood specimens
11.15.07.02	Utilize safety equipment and procedures in specimen collection
11.15.07.03	Document procedures for "common" accidents occurring during specimen collection
11.15.07.04	Identify patients and correctly label their specimens
11.15.07.05	Determine when to perform recollections
11.15.07.06	Determine when to reject a specimen
11.15.08.00	Perform point of care testing
11.15.08.01	Perform glucose testing at the bedside
11.15.08.02	Perform modified Duke and Ivy bleeding time using a surgicutt
11.15.08.03	Perform bedside hemoglobin testing
11.15.08.04	Perform or observe sweat chloride testing
11.15.09.00	Demonstrate knowledge of infection control and observe all safety precautions
11.15.09.01	Identify policies and procedures for maintaining laboratory safety
11.15.09.02	Discuss modes of transmission of infection and methods for prevention
11.15.09.03	Identify and properly label biohazardous specimens



Electives	
11.15.09.04	Describe safety measures that are followed when collecting blood specimens
11.15.09.05	Discuss in detail the universal precautions outlined by Center for Disease Control and OSHA
11.15.09.06	Discuss and perform proper infection control techniques, such as hand washing, gowning, gloving, masking and double-bagging
11.15.09.07	Define and discuss the term nosocomial infection
11.15.09.08	Describe appropriate procedures for disposing of used or contaminated needles
11.15.10.00	Perform a phlebotomy internship at a health care facility
11.15.10.01	Complete the prerequisites for eligibility to participate in the internship
11.15.10.02	Complete a minimum of 120-160 clinical hours
11.15.10.03	Complete 200 unassisted multiple draw venipuncture
11.15.10.04	Complete 200 unassisted successful micropuncture or finger sticks
11.15.10.05	Participate in laboratory operations including filing, processing, accessioning, centrifugation, and computer operations
11.15.10.06	Devise and implement appropriate methods of workload organization
11.15.10.07	Adhere to the standards of ethics and professionalism
11.15.10.08	Adhere to all safety regulations as established by the clinical site
11.15.10.09	Participate in community health fairs to obtain necessary numbers of micropuncture



Electives	
11.15.11.00	Perform/observe pediatric and neonatal services
11.15.11.01	Observe or perform specimen collection procedures on neonates
11.15.11.02	Observe or perform specimen collection procedures from infants in neonatal ICU
11.15.11.03	Observe or perform specimen collection procedures on pediatric patients
11.15.12.00	Perform phlebotomy collections in a variety of settings
11.15.12.01	Observe or perform specimen collection procedures in the Emergency Room
11.15.12.02	Observe or perform specimen collection procedures in each of the intensive care units (ICU) listed: Coronary (CICU), Medical (MICU), and surgical (SICU)
11.15.12.03	Perform specimen collection procedures on the maternity/obstetrics patients
11.15.12.04	Perform specimen collection procedures on medical and surgical patients
11.15.12.05	Perform specimen collection procedures on geriatric patients
11.15.12.06	Perform specimen collection procedures on psychiatric patients
11.15.13.00	Perform special collection procedures
11.15.13.01	Observe arterial blood gas collections
11.15.13.02	Collect specimens requiring special transport
11.15.13.03	Collect specimens from patients in isolation
11.15.13.04	Collect blood cultures
11.15.13.05	Conduct glucose tolerance test



Electives	
11.15.13.06	Collect timed specimens including post prandial glucose, peak and trough antibiotic/drug assays
11.15.13.07	Perform blood bank specimen collection procedures
11.15.14.00	Perform difficult draw procedures
11.15.14.01	Observe and perform line draws such as heparin lock, CVC, etc.
11.15.14.02	Collect specimens using a syringe and a butterfly
11.15.14.03	Observe or perform capillary blood gas collection
11.15.14.04	Observe or perform hand/wrist and ankle/foot collections
11.15.14.05	Observe or perform NIDA collection
11.15.14.06	Observe or perform specimen collection procedures on patients receiving IV therapy, blood transfusions, dialysis therapy
11.15.15.00	Take a national phlebotomy registry examination
11.15.15.01	Complete eligibility requirements to take a national phlebotomy registry examination
11.15.15.02	Complete application process to take the phlebotomy registry examination
11.15.15.03	Sit for a national phlebotomy examination
Recommended A Scientists	ssessment: National Exam of International Academy of Phlebotomy



## Sterilization and Disinfection-Minor Surgery and Instrumentation

11.16.01.00	Demonstrate knowledge of sterilization and disinfection
11.16.01.01	State the purpose of sanitization
11.16.01.02	Explain the principle involved in sterilizing materials in the autoclave, and explain why the length of time necessary for autoclaving varies according to type of article being sterilized
11.16.01.03	List three principles that should be followed when the autoclave is loaded
11.16.01.04	State the qualities of good wrapper for use in the autoclaving process
11.16.01.05	Explain the function of sterilization indicators, and list two types of indicators that may be used
11.16.01.06	Explain how incomplete sterilization can occur when using the autoclave
11.16.01.07	List the materials that are best sterilized in a dry heat oven
11.16.01.08	Identify four guidelines for operating the dry heat oven
11.16.01.09	Identify the steps for preparing infectious waste for disposal by infectious waste service
11.16.01.10	List four types of disinfectants commonly used in medical practice and explain basic guidelines for using chemical disinfectant
11.16.02.00	Demonstrate knowledge of surgical asepsis
11.16.02.01	Identify four types of procedures that require the use of surgical asepsis
11.16.02.02	List five guidelines that should be observed during a sterile procedure in order to maintain surgical asepsis



11.16.03.00	Identify instruments used in minor surgery
11.16.03.01	State the function of transfer forceps
11.16.03.02	List four guidelines for using transfer forceps
11.16.03.03	Identify and explain the uses of the scalpel
11.16.03.04	Identify and explain the uses of the operating scissor
11.16.03.05	Identify and explain the uses of the suture scissor
11.16.03.06	Identify and explain the uses of the bandage scissor
11.16.03.07	Identify and explain the uses of the dissecting scissor
11.16.03.08	Identify and explain the uses of the thumb forcep
11.16.03.09	Identify and explain the uses of the splinter forcep
11.16.03.10	Identify and explain the uses of the dressing forcep
11.16.03.11	Identify and explain the uses of the tissue forcep
11.16.03.12	Identify and explain the uses of the mosquito hemostat
11.16.03.13	Identify and explain the uses of the straight hemostat
11.16.03.14	Identify and explain the uses of the sponge forceps
11.16.03.15	Identify and explain the uses of the hemostatic forceps
11.16.03.16	Identify and explain the uses of the needle holder
11.16.03.17	Identify and explain the uses of the towel clamp
11.16.03.18	Identify and explain the uses of the retractor
11.16.03.19	Identify and explain the uses of the probe
11.16.03.20	Identify and explain the uses of the vaginal speculum



Electives	
11.16.03.21	Identify and explain the uses of the uterine dressing forcep
11.16.03.22	Identify and explain the uses of the uterine curette
11.16.03.23	Identify and explain the uses of the uterine sound
11.16.03.24	Identify and explain the uses of the uterine tenaculum
11.16.04.00	Demonstrate knowledge of the types of wounds
11.16.04.01	Explain the difference between a closed and an open wound
11.16.04.02	Give an example of one type of closed wound
11.16.04.03	Give an example of four types of open wounds
11.16.04.04	Explain the healing process
11.16.05.00	Demonstrate knowledge of sutures
11.16.05.01	Explain the method of measuring the diameter of suture material
11.16.05.02	Describe the different types of sutures
11.16.05.03	Categorize suturing needles according to their type of point and shape
11 14 04 00	Decreased brouledge of againting with minor surgery
11.16.06.00	Demonstrate knowledge of assisting with minor surgery
11.16.06.01	Explain the purpose of and the procedure for the Sebaceous cyst removal
11.16.06.02	Explain the purpose of and the procedure for the incision and drainage of localized infection
11.16.06.03	Explain the purpose of and the procedure for the needle biopsy
11.16.06.04	Explain the purpose of and the procedure for the ingrown toenail removal
11.16.06.05	Explain the purpose of and the procedure for the Colposcopy removal



Electives	
11.16.06.06	Explain the purpose of and the procedure for the Cervical Punch biopsy
11.16.06.07	Explain the purpose of and the procedure for the Cryosurgery
11.16.06.08	Explain the principles underlying each step in minor surgery
11.16.07.00	Demonstrate knowledge of sterile dressing change
11.16.07.01	List the functions of a dressing
11.16.07.02	State the functions of a bandage and list the guidelines that should be observed when applying a bandage
11.16.07.03	Identify the common types of bandages
11.16.07.04	Explain the use of tubular gauze

## Intro to Medications/Pharmacology

11.17.01.00	Order and store medications
11.17.01.01	Check inventory stock
11.17.01.02	Contact supplier
11.17.01.03	Rotate stock
11.17.01.04	Process order forms and invoice according to Drug Enforcement Agency (DEA) guidelines
11.17.01.05	Store medications properly
11.17.01.06	Prepare expired medication for disposal
11.17.01.07	Dispose of medications properly complying with government regulations



Electives	
11.17.02.00	Calculate dosage according to physician's orders
11.17.02.01	Use Physician's Desk Reference (PDR) and Facts Comparisons
11.17.02.02	Calculate oral dosage
11.17.02.03	Calculate parenteral dosage
11.17.02.04	Calculate pediatric dosage
11.17.02.05	Calculate intravenous dosage and rate of flow
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11.17.03.00	Obtain and administer medications according to physician's orders
11.17.03.01	Identify patient
11.17.03.02	Verify patient allergies
11.17.03.03	Use reference materials
11.17.03.04	Verify accuracy of medical order
11.17.03.05	Calculate dosages
11.17.03.06	Prepare and administer oral medications
11.17.03.07	Identify correct anatomical sites
11.17.03.08	Administer medications
11.17.03.09	Document medication administration
11.17.03.10	Document patient response to medications
11.17.04.00	Evaluate response to medication
11.17.04.01	Identify possible adverse reactions to medications
11.17.04.02	Assess patient/client reaction to medications



Electives	
11.17.04.03	Report adverse reactions to appropriate sources
11.17.04.04	Document patient/client response to medication
11.17.05.00	Dispense and instruct patients on use of medications
11.17.05.01	Provide written instructions
11.17.05.02	Demonstrate use of medications (e.g., side effects, adverse effects, interactions with other medications)
11.17.05.03	Prepare written prescription for physician's signature
11.17.05.04	Develop and maintain standing orders according to physician's protocol (e.g., prescription refill)
11.17.06.00	Record medications
11.17.06.01	Log schedule of drugs on patient's chart
11.17.06.02	Log schedule of drugs on medication log
11.17.06.03	Log control/lot number and expiration date
11.17.06.04	Obtain countersignature of physician

## General Office Procedures

11.18.01.00	Maintain medical records
11.18.01.01	File information alphabetically or numerically according to office protocol
11.18.01.02	Retrieve patient record from file
11.18.01.03	Prepare cross-reference file
11.18.01.04	Process and file incoming medical reports



11.18.02.00	Explain office procedures and protocol
11.18.02.01	Prepare, edit, and distribute office procedure brochure
11.18.02.02	Advise patient of office hours
11.18.02.03	Advise patient of billing structure
11.18.02.04	Review patient bill of rights
11.18.03.00	Operate computer
11.18.04.00	Operate office equipment
11.18.04.01	Operate transcriber
11.18.04.02	Operate calculator
11.18.04.03	Operate checkwriter
11.18.04.04	Operate typewriter
11.18.04.05	Operate copy machine
11.18.04.06	Operate postage meter
11.18.04.07	Operate fax machine
11.18.04.08	Operate multiline telephone system
11.18.04.09	Operate credit card impresser
11.18.05.00	Write and process office communications
11.18.05.01	Compose and type business correspondence
11.18.05.02	Type letters from dictating machine
11.18.05.03	Compose and keyboard interoffice memos
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Electives	
11.18.05.04	Complete appropriate consent forms
11.18.05.05	Address envelopes
11.18.05.06	Process incoming mail
11 10 07 00	Open and close office
11.18.06.00	Open and close office
11.18.06.01	Check for safety hazards
11.18.06.02	Maintain environmental service
11.18.06.03	Pull patients charts
11.18.06.04	Check examining rooms for cleanliness and supplies
11.18.06.05	File completed records in locked cabinets
11.18.06.06	Place money in safe
11.18.06.07	Activate alarm system
11.18.06.08	Secure office equipment
11.18.06.09	Secure and lock doors
11.18.07.00	Demonstrate telephone techniques according to office protocol
11.18.07.01	Receive calls
11.18.07.02	Apply oral communication skills
11.18.07.03	Receive, evaluate and record telephone messages
11.18.07.04	Write legibly
11.18.07.05	Obtain and record messages from recording device
11.18.07.06	Obtain and record messages from answering service



Screen calls
Transfer calls
Obtain information for doctor to return calls
Handle emergency calls
Make arrangements for patient's admission to hospital
Make referrals
Phone new and refill prescriptions to pharmacy
Schedule appointments according to office protocol
Write appointments legibly
Prepare appointments calendar
Record appointments
Prepare appointment cards
Maintain recall system
Confirm appointments
Make referral appointments for patients
Prepare patient chart for office visit according to office protocol
Obtain preliminary information
Prepare folder
Prepare charge slip



Calculate charges on charge slip according to office protocol
Apply mathematical skills
Itemize fee for each service rendered (e.g., using superbill, pegboard, computer statement)
Operate calculator
Maintain administrative office supplies according to office protocol
Inventory office supplies
Prepare purchase requisitions
Order office supplies
Receive office supplies
Store office supplies
Maintain patient accounts according to office protocol
Apply mathematical skills
Apply basic bookkeeping fundamentals
Prepare ledger
Record charges and credits
Total charges using calculator
Interpret and explain doctor's fees
Compose itemized statement
Compose collection letter
Track accounts receivable and prepare aging reports



#### Patient Care Skills (Mult 126) Demonstrate knowledge of patient care skills in relationship to the 11.19.01.00 nursing profession Compare jobs description of PCA to long term care NA 11.19.01.01 Recognize differences between acute care/chronic care 11.19.01.02 Respect lines of authority as shown by an organizational chart 11.19.01.03 Function under standards of care as stated by Ohio Board of Nursing 11.19.01.04 Work safely in an acute care institution 11.19.02.00 Identify categories of occupational and safety hazards 11.19.02.01 Distinguish illness from injury 11.19.02.02 State how toxic and/or infectious substances enter the body 11.19.02.03 Protect self in a health care setting 11.19.02.04 11.19.02.05 Reduce hazards in a health care setting Read MSDS sheet 11.19.02.06 Practice universal precautions 11.19.03.00 Explain each element of the chain of infection and its contribution to 11.19.03.01 infection Recognize signs and symptoms of infection 11.19.03.02 Distinguish between medical asepsis and surgical asepsis 11.19.03.03 11.19.03.04 Wash hands correctly

Perform isolation techniques



11.19.03.05

Electives	
11.19.03.06	Identify principles of surgical asepsis
11.19.03.07	Prepare a sterile field
11.19.03.08	Add sterile items to a sterile field
11.19.03.09	Pour a sterile solution
11.19.03.10	Don sterile gloves
11.19.04.00	Provide wound care and irrigations
11.19.04.01	Discuss the body's response during each stage of the wound-healing process
11.19.04.02	Explain factors that impair or promote normal wound healing
11.19.04.03	Administer a wound irrigation
11.19.04.04	Remove sutures or staples
11.19.04.05	Demonstrate care of a wound drainage system
11.19.04.06	Apply dry, pressure, wet-to-dry, and synthetic dressing
11.19.04.07	Assess CVP site and change dressing
11.19.04.08	Discuss purposes of binders, bandages and slings
11.19.04.09	Apply bandages
11.19.04.10	Apply binders
11.19.04.11	Apply a sling
11.19.04.12	Assess IV site



Electives	
11.19.05.00	Care for the preoperative and postoperative patient
11.19.05.01	Explain the rationale of postoperative exercises
11.19.05.02	Instruct patient in postoperative exercises
11.19.05.03	Identify benefits and risks associated with shaving a surgical site
11.19.05.04	Prepare a surgical site
11.19.05.05	Prepare a postoperative patient unit
11.19.05.06	Complete a preoperative check list
11.19.05.07	Perform postoperative care
11.19.06.00	Apply hot and cold therapy
11.19.00.00	
11.19.06.01	Identify the effects of heat and cold on the body
11.19.06.02	Identify the risks to clients related to hot and cold applications
11.19.06.03	Explain common guidelines used to protect clients who receive hot and cold applications
11.19.06.04	Apply dry heat applications, hot moist compresses, warm soaks, dry cold applications, moist cold applications
11.19.06.05	Administer a warm sitz bath
11.19.06.06	Place a hypothermia blanket
11.19.07.00	Provide ostomy care
11.19.07.01	- Identify types of bowel and bladder diversions
11.19.07.02	Explain differences in color and consistency of drainage based on location of an ostomy



Electives	
11.19.07.03	Describe methods used to maintain skin integrity during pouching of ostomies
11.19.07.04	Pouch an enterostomy
11.19.07.05	Irrigate a colostomy
11.19.07.06	Drain and rinse an ostomy appliance
11.19.08.00	Care for client with a nasogastric/nasointestinal tube or a gastric tube
11.19.08.01	Demonstrate appropriate technique for administering bolus tube feeding
11.19.08.02	Demonstrate appropriate technique for administering continuous tube feeding
11.19.08.03	Demonstrate appropriate care of exit site for gastrostomy/jej unostomy tube
11.19.08.04	Verify tube placement for a feeding tube
11.19.08.05	Remove a nasogastric/intestinal tube
11.19.08.06	Irrigate a nasogastric tube
11.19.08.07	Calculate I & O for patient on gastric lavage/gavage
11.19.09.00	Meet urinary elimination needs of patient
11.19.09.01	Identify factors that alter normal voiding
11.19.09.02	Measure and record intake and output
11.19.09.03	Insert a straight or indwelling catheter
11.19.09.04	Perform catheter care
11.19.09.05	Obtain catheterized specimen for residual urine



Electives	
11.19.09.06	Perform catheter irrigation
11.19.09.07	Remove retention catheter
11.19.09.08	Apply condom catheter
	Mass based elimination needs of nationt
11.19.10.00	Meet bowel elimination needs of patient
11.19.10.01	Describe factors that impede normal bowel elimination
11.19.10.02	Insert a rectal tube
11.19.10.03	Remove fecal impaction digitally
11.19.10.04	Administer an enema
11.19.11.00	Collect specimens
	(Competencies as listed in 11.13 Laboratory Procedures)
11.19.12.00	Care for patients on oxygen therapy
11.19.12.01	Discuss indications for oxygen therapy
11.19.12.02	Recognize hazards of oxygen therapy
11.19.12.03	Use oxygen safety guidelines
11.19.12.04	Distinguish between different means of oxygen administration
11.19.12.05	Apply a nasal cannula, an oxygen mask
11.19.12.06	Provide pulmonary toilet
11.19.12.07	Identify mechanisms of tracheal suctioning
11.19.12.08	Apply principles of wound care in the management of tracheostomy suctioning
11.19.12.09	Apply pulse oximetry



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11.19.12.10	Understand pulse oximetry values and bring to RN's attention
11.19.12.11	Care for a patient with chest tubes
11.19.13.00	Care for patient receiving cardiac monitoring
	(Competencies as listed in 11.12 Diagnostic Procedures)
11.19.14.00	Provide neurological assessment of patient
11.19.14.01	Assess level of consciousness
11.19.14.02	Assess pupil response
11.19.14.03	Assess motor response
11.19.14.04	Assess reflexes
11.19.14.05	Recognize deviations from normal

Recommended Assessment: Skill evaluation at Columbus State Community College. Mastery of all competencies in combination with:

11.2 Diagnostic Procedures

11.3 Laboratory Procedures

meets requirements of Mult 126.

#### Homemaker-Home Health Aide

(Mult 122)

11.20.01.00	State why homemaker-home health aide services are needed
11.20.01.01	State the reasons for providing service in the home
11.20.01.02	Explain the purposes and goals of homemaker-home health aide service
11.20.01.03	Identify clients' rights, as mandated by federal, state and local laws
11.20.01.04	Describe what can and cannot be done in the role of homemaker-home health aide



Electives	
11.20.01.05	Identify general skills and specific skills that this course will teach
11.20.01.06	Describe the increase in number of homemaker-home health aide service programs since the United States since homemaker-home health aide services first began
11.20.01.07	Express expectations and responsibilities with respect to the training course
11.20.02.00	Describe the role of the homemaker-home health aide
11.20.02.01	Describe meaningfully how the role of the homemaker-home health aide meshes with the rest of the home care team
11.20.02.02	Identify the special responsibilities of the homemaker-home health aide on the home care team
11.20.02.03	Describe those features and changes in home and family life to which the homemaker-home health aide should be alert
11.20.02.04	Describe the tasks and responsibilities of the homemaker-home health aide in a variety of home care situations
11.20.02.05	Define the qualities of a successful homemaker-home health aide
11.20.03.00	Understand how agencies make services available to clients and families
11.20.03.01	Describe an agency or program that provides homemaker-home health aide services, its purpose and organization
11.20.03.02	Describe how an agency makes homemaker-home health aide services available by establishing procedures and policies, by developing plans of care bases on need and by professional assessments, and by providing supervision and guidance
11.20.03.03	Describe responsibility of the agency to homemaker-home health aides and staff



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Electives	
11.20.04.00	Communicate effectively with the client
11.20.04.01	Identify the ways in which people communicate with each other
11.20.04.02	Describe the difference between verbal and nonverbal communication
11.20.04.03	Describe how communicative skill of the homemaker-home health aide helps assure the provision of quality in-home care to clients and families
11.20.04.04	Describe methods for achieving good communication with others
11.20.05.00	Understand basic human needs
11.20.05.01	Describe basic needs which homemaker-home health aide service might be needed
11.20.05.02	Describe the importance of the family to individuals and society
11.20.05.03	Identify ways in which individuals and families differ
11.20.05.04	Express reasons the homemaker-home health aide must show respect for clients' cultural and lifestyle differences
11.20.05.05	Describe how people may feel when basic needs are not met
11.20.06.00	Understand and work with children
11.20.06.01	Identify the basic physical and emotional needs of children
11.20.06.02	Identify the basic growth stages of childhood and some behaviors typical of each
11.20.06.03	Recognize common reactions of children and other family members to illness or stress and how they might be handled
11.20.06.04	Describe family situations in which homemaker-home health aide service may be helpful



11.20.06.05

Identify ways in which the homemaker-home health aide can establish

and maintain relationships with children and family members

Electives	
11.20.06.06	Distinguish between discipline and punishment and between appropriate and inappropriate discipline
11.20.06.07	Recognize changes or events in a family that the homemaker-home health aide should report to the supervisor
11.20.06.08	Recognize common signs of child abuse
11.20.07.00	Understand and work with older clients
11.20.07.01	Discuss attitudes and beliefs about older persons
11.20.07.02	Identify myths about the aging process
11.20.07.03	Demonstrate understanding and sensitivity to differences in older clients
11.20.07.04	Describe general characteristics, particular needs-physical, financial and emotional-and problems of older clients
11.20.07.05	Describe how homemaker-home health aides help in meeting these needs
11.20.07.06	Identify attitudes and lifestyles which promote positive mental and physical health for elderly people
11.20.07.07	Discuss the impact of race, ethnicity, class and poverty on health
11.20.07.08	Identify methods of preventing dependency and excessive disability, and maximizing rehabilitation
11.20.07.09	Identify types and evident of elder abuse which might occur in the home
11.20.07.10	Identify organizational policies and state or local laws regarding suspected elder abuse, neglect and mistreatment



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Electives	
11.20.08.00	Understand and work with clients who are ill
11.20.08.01	Identify the principal goals in working with clients who are ill
11.20.08.02	Identify some of the ways clients, family members and significant others may react to illness
11.20.08.03	Recognize changes in behavior of individuals or informal caregivers that require professional assessment or re-evaluation
11.20.08.04	Recognize the homemaker-home health aide's relationship and responsibility to the client, family members, informal caregivers, the agency and the care team
11.20.09.00	Understand and work with clients with disabilities
11.20.09.01	Distinguish between and identify the relatedness of a disability and an illness
11.20.09.02	Encourage an appropriate level of independence for the particular client
11.20.09.03	Demonstrate a general knowledge of the problems and needs of clients with developmental disabilities
11.20.09.04	Identify the principal goals in working with clients who are disabled and their families
11.20.09.05	Help families accept and cope with the stress factors involved in caring for persons with disabilities
11.20.09.06	Help families understand capabilities and limitations of clients with disabilities
11.20.09.07	Help individuals develop to the best of their abilities through carrying out plans of care developed jointly by specialists, the individuals and their families
11.20.09.08	Describe the nature and general characteristics of Alzheimer's Disease as a progressive illness



Electives	
11.20.10.00	Understand and work with mental illness
11.20.10.01	Identify some of the characteristics of mental health
11.20.10.02	Describe some of the concepts and misconceptions about mental illness
11.20.10.03	Describe how the homemaker-home health aide's contribution can be helpful to individuals, families and to the mental health team
11.20.10.04	Recognize that emotional conflict and stress can affect the physical health of an individual
11.20.11.00	Maintain a clean, safe and healthy environment
11.20.11.01	Recognize the importance of a clean and well-maintained home environment to health and safety, and its relationship to the plan of care
11.20.11.02	Identify the appropriate home maintenance role and tasks a homemaker-home health aide usually performs
11.20.11.03	Perform basic cleaning, housekeeping and maintenance tasks
11.20.11.04	Choose appropriate procedures, equipment and supplies, and improvise for these when supplies, equipment, and monetary resources are limited
11.20.11.05	Recognize when it is and when it is not appropriate to obtain the assistance of others in the household with home maintenance
11.20.11.06	Instruct others in the home to assist with housecleaning and maintenance tasks
11.20.12.00	Provide the client with food and adequate nutrition
11.20.12.01	Identify how foods and nutrition contribute to physical, social and psychological health
11.20.12.02	Discuss how the care plan is followed in carrying out food-related responsibilities, including modified diets



Electives	
11.20.12.03	List factors influencing individual and family food habits
11.20.12.04	Plan meals that provide for adequate nutrition for individuals and families on both general and modified diets
11.20.12.05	Shop for, plan, prepare and serve food attractively and economically, with attention to eating habits and preferences
11.20.12.06	Prepare and serve food for the elderly, the ill and persons on modified diets
11.20.12.07	Properly feed those who cannot feed themselves
11.20.12.08	Store food safely
11.20.13.00	Manage time, energy, money and other resources
11.20.13.01	Identify ways to conserve time and energy while providing service
11.20.13.02	Identify resources within the family
11.20.13.03	Identify what responsibility for resource management may be expected of the homemaker-home health aide
11.20.13.04	Describe community resources available to individuals and families
11.20.14.00	Provide home management when disease is present
11.20.14.01	Define and discuss the nature of infectious diseases
11.20.14.02	Describe major routes of disease transmission
11.20.14.03	Identify major transmissible diseases
11.20.14.04	Identify precautions that must be taken to prevent the spread of disease in household maintenance and personal care activities
11.20.14.05	Demonstrate the safe disposal of body of body wastes
11.20.14.06	Demonstrate the skill of handwashing



Electives	
11.20.14.07	Demonstrate how to cover the nose and mouth when sneezing or coughing
11.20.14.08	Teach family caregivers to prevent the spread of disease
11.20.14.09	Describe, in general terms, acquired immunodeficiency syndrome (AIDS)
11.20.15.00	Provide care for the dying patient
11.20.15.01	Define hospice and relate the history of hospice
11.20.15.02	List the stages of grief
11.20.15.03	Recognize and report the signs and symptoms of impending death
11.20.15.04	Provide comfort and support of the dying patient
11.20.15.05	Recognize personal emotions regarding death and dying
11.20.16.00	Identify body systems, disorders and diseases
11.20.16.01	Identify the basic body systems as a basis for giving personal care
11.20.16.02	Identify body functions as they influence the application of personal care skills
11.20.17.00	Observe body functions and report observations
11.20.17.01	Demonstrate ability to accurately measure body temperature, and rates of pulse and respiration
11.20.17.02	Recognize and observe the common signs and symptoms of illness
11.20.17.03	Report and record signs and symptoms of illness and other pertinent information in a meaningful way



E	ectives

11.20.18.00	Care for the client in bed
11.20.18.01	Give personal care to meet client's needs for elimination, hygiene, grooming, skin care, foot and mouth care
11.20.18.02	Position the client in bed using principles of good body mechanics
11.20.18.03	Make an occupied bed
11.20.18.04	Identify environmental dangers to the client in bed
11.20.18.05	Demonstrate procedures for the following:  *positioning *bedpan *urinal  *bedbath *skincare *shampoo in bed  *nail care *backrub *oral hygiene  *making an occupied bed
11.20.19.00	Care for the client not confined to bed
11.20.19.01	Assist in transfer techniques and ambulation to help the client move to and from a bed, chair and tub
11.20.19.02	Identify safety hazards in the client's environment
11.20.19.03	Prepare for and assist in personal care activities related to hygiene and grooming
11.20.19.04	Demonstrate assisting in the following:  *transfer from bed to chair *ambulation  *sponge, rub or shower bath *shampoo, sink or tub
11.20.20.00	Observe the client's ability to take medications and report observations
11.20.20.01	Explain why homemaker-home health aides do not administer medications
11.20.20.02	Discuss the role of homemaker-home health aides in the use of medications by clients



Electives	
11.20.20.03	Observe and report how medications are taken by clients
11.20.20.04	Watch for, observe and report any unusual/unintended reactions to medications
11.20.20.05	Suggest methods of avoiding medication error
11.20.20.06	Store medication correctly
11.20.20.07	Encourage client to dispose of old medications correctly and report disposal
11.20.21.00	Provide rehabilitation
11.20.21.01	Assist clients with range of motion exercises
11.20.21.02	Assist clients with disabilities to perform the activities of daily living
11.20.21.03	Demonstrate assisting with the following: *active and passive range of motion exercises *ambulation using two of three types of assistive device such as crutches, walkers, and various kind of canes
11.20.22.00	Provide health and emergency procedures
11.20.22.01	Apply dressings using a non-sterile technique
11.20.22.02	Apply both moist or dry, hot and cold treatments
11.20.22.03	Weigh person and record
11.20.22.04	Respond appropriately in an emergency
11.20.23.00	Apply knowledge and skills during a 17-20 hour practicum
11.20.23.01	Dress properly
11.20.23.02	Assemble needed supplies



Electives	
11.20.23.03	Review the record-ascertain the plan of care associated with assigned tasks; consult staff members if necessary
11.20.23.04	Establish a relationship by being sensitive to client needs and respecting the family's lifestyle
11.20.23.05	Provide services specified in the care plan, using the following learned skills and knowledge:  *organize work to conserve time and energy  *work safely and effectively  *leave the home or client's areas neat and clean  *Respect and encourage the independence of the client
11.20.23.06	Help the family accept and carry out needed care and treatment as found in the plan of care
11.20.23.07	Report and record activities performed, observe conditions and any changes and problems not previously known to the agency
11.20.23.08	Work with the home care team or supervisor in an effective and productive manner to provide needed services
11.20.23.09	Know what procedure to follow if an emergency arises
11.20.23.10	Recognize and discuss the need for services provided by other organizations in the community

Recommended Assessment: The "Model Curriculum and Teaching Guide for the Instruction of the Homemaker-Home Health Aide", developed by the National Homecaring Council, qualifies the student to take the Home Health Aide examination for certification.

#### **Disability Education**

11.21.01.00	Identify etiology of disabling conditions and diseases
11.21.01.01	Research and document known and suspected causes of disabling conditions/diseases
11.21.01.02	Investigate accepted methods of diagnosis of disabilities
11.21.01.03	Identify customary and alternative methods of treatment



Electives			
11.21.02.00	Identify general characteristics of disabilities		
11.21.02.01	Identify general physical characteristics of disabling conditions		
11.21.02.02	Identify general psychomotor characteristics of disabling conditions		
11.21.02.03	Identify general psychosocial characteristics of disabilities		
11.21.02.04	Identify general cognitive characteristics of disabilities		
11.21.02.05	Communicate needs and development		
Community Healt (Mult 172)	Community Health and Safety (Mult 172)		
11.22.01.00	Obtain safety certifications		
11.22.01.01	Complete Advanced First Aid training according to American Red Cross standards		
11.22.01.02	Complete Professional Rescuer-level (Course C) CPR training according to American Heart Association or American Red Cross standards		
11.22.01.03	Complete Preventing Disease Transmission training according to American Red Cross standards		
11.22.01.04	Complete HIV/AIDS training according to American Red Cross standards		
11.22.01.05	Complete Community Water Safety training		
11.22.01.06	Complete Adapted Aquatics training		
44.60.00.00	Demonstrate impulation of norcenal health and cafety issues		
11.22.02.00	Demonstrate knowledge of personal health and safety issues		
11.22.02.01	Practice community safety habits		
11.22.02.02	Identify classifications of medications		



Recommended Assessment: Certification in all areas through American Red Cross and for American Heart Association.

## Craft/Leisure Skills

11.23.01.00	Learn techniques and apply craft skills
11.23.01.01	Develop a file on each craft
11.23.01.02	Perform the craft
11.23.01.03	Teach the craft
11.23.01.04	Problem solve the craft activity
11.23.02.00	Learn techniques and practice activity skills
11.23.02.01	Develop a file on each activity
11.23.02.02	Perform the activity
11.23.02.03	Teach the activity
11.23.02.04	Problem solve the activity
11.23.03.00	Develop individual treatment skills to develop, deliver, and document appropriate client activities
11.23.03.01	Perform assessment skills
11.23.03.02	Develop a patient care plan
11.23.03.03	Provide individualized activity program
11.23.03.04	Document patient's participation and progress in activity program
11.23.03.05	Prepare program evaluation



Electives	
11.23.03.06	Make relevant program recommendations
11.23.03.07	Prepare program summaries
11.23.04.00	Demonstrate activity analysis and adaptation skills
11.23.04.01	Perform activity and function analysis
11.23.04.02	Demonstrate activity adaptation skills
11 23 04 03	Demonstrate appropriate safety measure in activity adaptations

### Human Development

11.24.01.00	Demonstrate knowledge of human reproduction and sexuality
11.24.01.01	Identify anatomy and physiology of the male and female human reproductive systems
11.24.01.02	Identify the stages of pregnancy and the corresponding stages of fetal development
11.24.01.03	Identify genetic disorders that can be traced to heredity
11.24.01.04	Identify ways specific birth defects can be prevented
11.24.02.00 11.24.02.01	List physical, social, mental, emotional, and psychomotor characteristics of persons through the following life stages:  a) newborn/infant through toddler
	b) preschool c) school years K-6, ages 5-12 d) adolescent e) young adult, to age 40 years f) middle adult, 40-60 years of age g) older adult, over 60 years of age



11.24.03.00	Identify and discuss	issues related to dea	th/dyi	ing		
11.24.03.01	Define physiological	(functions) of death				
11.24.03.02	Locate community death/dying needs	agencies/programs	that	assist	persons	with

## Surgical Technology

11.25.01.00	Demonstrate knowledge of surgical technology program organization
11.25.01.01	Describe safety procedures
11.25.01.02	Describe health care facilities
11.25.01.03	Describe hospital organization and management
11.25.01.04	Describe operating room personnel
11.25.01.05	List surgical team members
11.25.01.06	Identify aspects of the physical environment of the surgical suite
11.25.01.07	Outline interdepartmental relations
11.25.01.08	Discuss communication and rapport
11.25.01.09	Introduce the history of surgery
11.25.01.10	Describe surgery as it is today
11.25.01.11	Ethical, moral and legal responsibilities
11.25.01.12	Class discussion of surgical conscience



Electives	
11.25.02.00	Discuss physiology of organs as they relate to surgical repair procedures
11.25.02.01	Explain the surgical procedures performed on the skin
11.25.02.02	Describe surgical procedures performed on the skeletal system
11.25.02.03	After required reading and instruction, describe the surgical procedures of the nervous system with 85% accuracy based on test/quiz
11.25.02.04	List and describe the surgical procedures of the special senses
11.25.02.05	Describe the surgical procedures of the heart
11.25.02.06	Describe the surgical procedures of the respiratory system
11.25.02.07	Define the surgical procedures associated with the digestive system
11.25.02.08	Describe the surgical procedures of the urinary system
11.25.02.09	Describe the surgical procedures of the reproductive organs
11.25.03.00	Demonstrate principles of sanitation, sterilization, and disinfection
11.25.03.01	List the necessary factor for infection
11.25.03.02	Identify and describe the physical and chemical methods used to protect patients and workers from invasion by pathogenic microorganisms
11.25.04.00	Identify wound healing
11.25.04.01	Identify how tissue reacts to trauma
11.25.04.02	Describe the healing process
11.25.05.00	Demonstrate knowledge of principles of pharmacology
11.25.05.01	Review measurements and basic arithmetic



•	
11.25.05.02	Demonstrate ability to properly mix drugs in operating room setting
11.25.05.03	Define general terminology associated with the pharmacological use of drugs in the operating room
11.25.05.04	Identify the principles of drug use in the care of the surgical patient
11.25.05.05	Explain the principles of anesthesia administration
11.25.06.00	Demonstrate patient care concepts
11.25.06.01	Demonstrate an understanding of the surgical patient
11.25.06.02	Describe the physical, spiritual, and psychological patient needs
11.25.06.03	Demonstrate an understanding of the process used to obtain an informed consent for surgical procedure or treatment
11.25.06.04	Describe the identification process of the surgical patient
11.25.06.05	Prepare the operative site for surgery
11.25.06.06	Describe the application of thermoregulatory devices
11.25.06.07	Explain the principles of vital signs
11.25.06.08	Explain the principles of urinary catheterization and demonstrate the procedure
11.25.07.00	Provide asepsis in the surgical environment
11.25.07.01	Discuss the concepts of asepsis and demonstrate their application
11.25.07.02	Define surgical conscience
11.25.07.03	Identify the principles and demonstrate the techniques of sterilization
11.25.07.04	Identify principles and demonstrate techniques of disinfection and antisepsis



Electives	
11.25.08.00	Provide basic case preparation and procedures
11.25.08.01	Identify basic instruments by type, function, and name and demonstrate care, handling and assembly
11.25.08.02	Identify and prepare basic surgical supplies
11.25.08.03	Identify suture materials and stapling devices and demonstrate preparation and handling technique
11.25.08.04	Identify, describe, and handle the various surgical needles
11.25.08.05	Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure
11.25.09.00	Demonstrate surgical procedures
11.25.09.01	Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure in a simulated laboratory setting with the maintenance of asepsis at all times
11.25.09.02	Describe the operative sequence in the opening and closing of a surgical wound
11.25.09.03	Discuss the relevant anatomy of surgical procedures listed in the Surgical Technology Textbook
11.25.09.04	Identify the name and uses of special instruments, drugs, and supplies



# HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART II.B: Secondary Tech Prep Academic Competencies (Unleveled)



# HEART of OHIO TECH PREP CONSORTIUM

# SECONDARY ACADEMIC COMPETENCIES

Final, approved update, October 1997 Curriculum Pathways Committee

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# HEART of OHIO TECH PREP CONSORTIUM SECONDARY ACADEMIC COMPETENCIES

Reviewed & approved, October 1997

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# PREFACE How to Use This Competency List

The competencies listed in this document are exit competencies for the secondary component of Tech Prep programs. They represent what Tech Prep high school students are expected to be able to do by the end of grade 12.

Information offered in this preface includes:

- Philosophy underpinning Tech Prep academics
- Mathematics education as an example
- Bottom line for Tech Prep academics instruction
- Matrix indicating core and program-specific academic competencies
- Notes on organization of the competency list
- Acknowledgements

# Background: What's Different about Tech Prep Academic Competencies?

Tech Prep is a systemic educational reform movement intended to prepare students for the technology-based occupations of the coming century. Here are some key points to know about Tech Prep secondary academics:

- ✓ Tech Prep academics are college preparatory academics for concrete learners. (That's 90% of all of us.)
- ✓ The goal is to prepare Tech Prep students to enter the college of their choice without the need for academic remediation.
- ✓ What makes Tech Prep academics different from traditional college prep academics is not the content. It is the way in which it is taught.

The following section uses *mathematics* as an example to illustrate the necessity for this approach, and some related methodologies.

#### Mathematics: A Prime Example

If we accept the premise that Tech Prep programs will demonstrate systemic educational change by providing new, creative, and innovative options for students, then we must agree that what has passed for mathematics education in the past will not and can not continue as mathematics education in the future.

The follow excerpts from current literature support this position:



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Evidence from many sources shows that the least effective mode for mathematics learning is the one that prevails in most of America's classrooms: lecturing and listening. Despite daily homework, for most students and most teachers mathematics continues to be primarily a passive activity: teachers prescribe; students transcribe. Students simply do not retain for long what they learn by imitation from lectures, worksheets, or routine homework. Presentation and repetition help students do well on standardized tests and lower-order skills, but they are generally ineffective as teaching strategies for long-term learning, for higher-order thinking, and for versatile problem solving. (National Research Council. Everybody Counts—A Report to the Nation on the Future of Mathematics Education. 1989, p. 57.)

The National Council of Teachers of Mathematics have proposed five general goals for all K-12 students:

- 1. That students learn to value mathematics,
- 2. That students become confident in their ability to do mathematics,
- 3. That students become mathematics problem-solvers,
- 4. That students learn to communicate mathematically, and
- 5. That students learn to reason mathematically....

Toward this end, we see classrooms as places where interesting problems are regularly explored using important mathematical ideas. Our premise is that *what* a student learns depends to a great degree on *how* he or she has learned it.... This vision sees students studying much the same mathematics currently taught, but with quite a different emphasis. (NCTM. <u>Curriculum and Evaluation Standards for School Mathematics</u>. 1989, p. 5.)

For NCTM's vision for mathematics education to be realized, the vision of how students learn mathematics must shift "toward investigating, formulating, representing, reasoning, and applying a variety of strategies to the solution of problems . . . and away from being shown or told, memorizing and repeating.... {And the} role of teachers toward 'questioning and listening' . . . and away from 'telling' students what to do..." (NCTM, Assessment Standards for School Mathematics, 1995, p. 2).

Alternative methods for delivery of mathematics education should address the following:

- Students should experience mathematics as active, engaging, and dynamic.
- 2. Mathematics instruction should at all times make appropriate use of technology, especially graphing calculators and computers.
- Mathematics courses should make extensive use of writing assignments, open-ended projects, and cooperative learning groups.
- 4. Faculty should use a variety of teaching strategies and should employ a broad range of examples.



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#### The Bottom Line for Teaching

As shown above, we can not continue to teach mathematics — or for that matter, any high school academics — the way they have always been taught. The Heart of Ohio Tech Prep Consortium officially encourages the kind of systemic change spelled out in the example just presented using mathematics education.

In other words, TECH PREP HIGH SCHOOL ACADEMIC INSTRUCTION SHOULD --

- Focus on developing critical thinking and problem-solving skills
- Incorporate cooperative learning techniques
- Include written group projects, developed in conjunction with business and industry, that address real-world problems
- Actively embrace career development and school-to-work opportunities
- Encourage global thinking and learning through multidisciplinary instruction, projects, and experiences

# Core Academic Competencies and Program-Specific Competencies

The matrix on the next page shows--

- 1. Core competencies required of ALL TECH PREP STUDENTS by the time they complete high school.
- 2. Program-specific competencies required by the end of grade 12 FOR STUDENTS WHO SELECT A PARTICULAR TECH PREP SECONDARY PROGRAM that is linked with one or more college Tech Prep programs.

## Important notes:

- ✓ The grade and sequence in which Tech Prep academic competencies are taught are up to the local school (though in some cases, this is determined naturally by progression of prerequisite skills).
- Regardless of the sequence, every student completing a high school Tech Prep program should have attained the academic competencies



- (both core and program-specific) by the time he or she completes the high school Tech Prep program.
- The core competencies and program-specific competencies required by the end of grade 12 are the minimum requirements for successful completion of the high school Tech Prep program and subsequent matriculation into a college Tech Prep program. If time and resources allow, any school may choose to enrich its Tech Prep programs by teaching additional competencies that enhance the students' college and/or employment readiness.
- ✓ Instructors will notice that competencies listed in their discipline are generally equivalent to the college prep content they already teach (e.g., Algebra I, Geometry, Biology, Global History, etc.).
- ✓ Schools are advised to retain traditional names for academic courses (e.g., Algebra II, English IV) on the student's official transcript, to support their acceptance by selective-admissions colleges and universities, as well as for scholarship eligibility (e.g., NCAA). Although schools may organize and sequence Tech Prep academic course content differently from traditional college preparatory courses, students should have attained all of the requisite competencies by the end of grade 12, thereby addressing the expectations of these organizations.



		CORE ACA REQUIRED OF BY THE	MATRIX NO. 1: CORE ACADEMIC COMPETENCIES LUIRED OF ALL TECH PREP STUDENTS BY THE END OF GRADE 12	TENCIES STUDENTS DE 12		,
	ACADEMIC CO	ACADEMIC COMPETENCIES		Individual	Technology	Professional Options
Communications Literacy*	Mathematics Literacy*	Science Literacy*	Social/Cultural Literacy*	Development Competencies	Literacy Competencies	(Technical & Employability Competencies)
All competencies listed	<ul> <li>Algebra</li> <li>Numbers &amp; number relations</li> <li>Data analysis</li> &amp; probability </ul>	<ul> <li>Lab safety procedures</li> <li>Scientific process</li> <li>Biology/ecology</li> </ul>	All competencies listed	All competencies listed	All competencies listed	See specific program model (separate document)
*Four years of college-prep English	*Minimum three years of college prep mathematics see Matrix No. 2 for additional program-specific requirements	*Minimum two years of lab science, one of which is biology — see Matrix No. 2 for additional program- specific	*Four years of college-prep humanities			



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	ADDITIONAL REQUIRED FOR S	MATRIX NO. 2: FIONAL ACADEMIC COMPETENCIES FOR SPECIFIC TECH PREP PROGRAMS IN GRADES 11-12*	MS
	(*In addition to core c	*In addition to core competencies required of all students	tudents)  Professional Ontions Competencies
TECH PREP PROGRAM MODEL (Gr. 11-12)	Mathematics Literacy Competencies*	Competencies*	(Technical & Employability)
Automotive/Diagnostic Technologies	Geometry     Technical Algebra	<ul><li>Chemistry</li><li>Physics</li></ul>	See separate program model documentation
Business Technologies Core Model:			
<ul> <li>Computerized Business</li> <li>Technology (CBT)</li> <li>Career Major</li> </ul>	<ul><li>Geometry</li><li>Technical Algebra</li></ul>	<ul> <li>Chemistry or Physics frecommended but not required)</li> </ul>	See separate program model documentation
<ul> <li>Business Management Career Major (in process)</li> </ul>	ТВА	ТВА	TBA
Construction Technologies	<ul> <li>Technical Algebra</li> <li>Geometry and/or</li> <li>Technical Trigonometry</li> <li>frecommended but not</li> <li>required)</li> </ul>	<ul> <li>Physics</li> <li>Chemistry frecommended by not required!</li> </ul>	See separate program model documentation
Engineering Technologies Core Model:			
<ul><li>Architecture/ Construction Career Major</li></ul>	Select two:  Technical Algebra Geometry Technical Trigonometry	<ul><li>Chemistry</li><li>Physics</li></ul>	See separate program model documentation

	ADDITIONAL REQUIRED FOR S IN	MATRIX NO. 2: ADDITIONAL ACADEMIC COMPETENCIES REQUIRED FOR SPECIFIC TECH PREP PROGRAMS IN GRADES 11-12* (*In addition to core competencies required of all students)	MS udents)
TECH PREP PROGRAM MODEL (Gr. 11-12)	Mathematics Literacy Competencies*	Science Literacy Competencies*	Professional Options Competencies (Technical & Employability)
Engineering Core Model program, continued:	Select two:  Technical Algebra	<ul><li>Chemistry</li><li>Physics</li></ul>	See separate program model
■ Design Engineering Career Major	<ul><li>Geometry</li><li>Technical Trigonometry</li></ul>		
■ Electronics Technology Career Major			
<ul><li>Graphic Communications Career Major</li></ul>			
■ Landscape Career Major			
<ul><li>Manufacturing Career</li><li>Major</li></ul>			
Environmental Technologies	<ul><li>Geometry</li><li>Technical Algebra</li></ul>	<ul> <li>Chemistry</li> <li>Environmental Geology</li> <li>(specific to this program; see separate program model documentation)</li> </ul>	See separate program model documentation
Information Engineering Technologies	<ul><li>Geometry</li><li>Technical Algebra</li></ul>	<ul><li>Chemistry</li><li>Physics</li></ul>	See separate program model documentation
Multi-Competency Health Technologies ("Allied Health")	<ul> <li>Technical Algebra</li> </ul>	<ul><li>Chemistry</li></ul>	See separate program model documentation



# Notes on Organization of the Competency List

Numbering format:

Category

Subcategory

Competency (\*9.03.12.00)

Competency Builder (9.03.12.11)

 An asterisk (\*) indicates that the statement is a competency. Others are competency builders. Competency statements always end with ".00" in the builder columns.

• Categories:

1	=	Communications Literacy	47 competencies
		Individual Development	
		Mathematics Literacy	
		Science Literacy	
		Social/Cultural Literacy	
		Technology Literacy	
_			151 total

 Professional Options (technical) competencies are not included. The set of specific technical competencies used will depend on the particular Tech Prep program model. These are contained in separate documents available from each school's representative to the Tech Prep Consortium Implementation

Committee.

Communications Literacy competencies do not include builders.

Individual Development category does not include subcategories.

#### **Acknowledgements**

The original version of this competencies list (1992-94) was developed and reviewed by over 80 representatives of K-12 and higher education institutions as well as members of business, industry, and labor organizations who donated their time to help Tech Prep get on its feet in Central Ohio. The current version was reviewed and approved by representatives of Ohio University, Columbus State Community College, and the Curriculum Pathways Committee of the Heart of Ohio Tech Prep Consortium. The preface was prepared by Leigh Trapp, Larry Lance, and Connie Faddis. A special thank you goes to Dr. John Furlow of OU-Lancaster, Dr. David Hockenbery of Columbus State, and Larry Lance of Columbus State.



# COMMUNICATIONS LITERACY COMPETENCIES

#### **Effective Reading Skills**

	·
*1.01.01.00	Differentiate between fact, opinion, and inference.
*1.01.02.00	Cite details that support or do not support predictions.
*1.01.03.00	Recognize the intent and use of propaganda.
*1.01.04.00	Identify and summarize ideas, information, and events that are explicitly stated in written material.
*1.01.05.00	Explain the sequence of time, places, events, and ideas.
*1.01.06.00	Identify and explain the main and subordinate ideas (stated or implied) in a written work.
*1.01.07.00	Apply interpretive level comprehension skills to generate ideas and/or hypotheses about the content.
*1.01.08.00	Find, understand, interpret, and apply information from a variety of sources (books, manuals, newspapers, periodicals, directories, reference works, computer printouts, and electronic sources).
*1.01.09.00	Use the features of books and reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, and bibliography.
*1.01.10.00	Define and use unfamiliar words and specialized vocabulary (including abbreviations, acronyms, concepts, and jargon) by using structural analysis, decoding, contextual cues, dictionaries, and computers.
*1.01.11.00	Read and understand short notes, memos, letters, and forms.
*1.01.12.00	Read and follow complex directions.
*1.01.13.00	Determine the author's purpose.
*1.01.14.00	Read, evaluate, and respond critically to various literature forms, genres, and printed media.
*1.01.15.00	Recognize and interpret organizational patterns of writing (e.g., cause and

effect, comparison and contrast, and simple listing).



\*1.01.16.00 Identify the structural elements of literature (e.g., plot, theme, character, mood, setting, and point of view).
\*1.01.17.00 Identify literary devices (e.g., metaphor, foreshadowing, flashback, allusion, satire, and irony).
\*1.01.18.00 Explore and analyze a variety of cultural elements, attitudes, beliefs, and value structures through reading.

#### **Effective Speaking and Presentation Skills**

*1.02.01.00	Give oral directions and clear explanations.
*1.02.02.00	Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals.
*1.02.03.00	Demonstrate correct usage of vocabulary.
*1.02.04.00	Demonstrate an awareness and understanding of interpersonal communication skills (verbal and nonverbal) in one-to-one and small group settings (role playing).
*1.02.05.00	Speak effectively using nonverbal communication such as eye contact, posture, and gestures.
*1.02.06.00	Select topics suitable to audience, situation, and purpose.
*1.02.07.00	Demonstrate effective speaking skills in seeking employment and in utilizing management skills on the job.
*1.02.08.00	Give formal and informal talks and speeches.
*1.02.09.00	Demonstrate the difference between informing and persuading and use the appropriate techniques of content and delivery for each purpose.
*1.02.10.00	Use visual media.
*1.02.11.00	Demonstrate proper telephone etiquette.



#### **Effective Writing Skills**

Demonstrate ability to use different forms of writing (e.g., literary \*1.03.01.00 response, business and technical communicative modes, personal responses, journals, research and recording). Demonstrate appropriate selection of mode, purpose, audience, point of \*1.03.02.00 view, and organization of information in written assignments. Demonstrate expertise in word processing, graphics, and/or desktop \*1.03.03.00 publishing aids for writing. Apply writing process techniques: 1) Prewriting, 2) Drafting, 3) Revising, 4) \*1.03.04.00 Editing/proofreading, 5) Publishing. Demonstrate ability to evaluate written assignments using a diagnostic \*1.03.05.00 rubric. Develop and maintain a professional writing portfolio. \*1.03.06.00

#### Listening Skills

- \*1.04.01.00 Follow spoken directions.
- \*1.04.02.00 Distinguish between fact and opinion.
- \*1.04.03.00 Make inferences and draw conclusions from verbal and nonverbal messages.
- \*1.04.04.00 Identify and comprehend the main-and subordinate ideas in lecture and discussions, questions to clarify information heard, and report accurately what others have said.
- \*1.04.05.00 Restate or paraphrase a conversation to confirm one's own understanding of what was said.
- \*1.04.06.00 Take accurate notes which summarize material presented from spoken conversations, including telephone messages.
- \*1.04.07.00 Recognize multi-cultural differences when listening.



# Critical Viewing/Graphic/Observation Skills

*1.05.01.00	Read and understand graphs, charts, and tables to obtain factual information.
*1.05.02.00	Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas.
*1.05.03.00	Critically view historical or contemporary events, via TV or video tape, and make appropriate observations.
*1.05.04.00	Analyze the effects of advertising and other visual media for direct and hidden messages, including propaganda devices.
*1.05.05.00	Communicate through use of video tape and computer presentations.



#### INDIVIDUAL DEVELOPMENT

- \*2.00.01.00 Apply critical thinking skills to personal, family, and work problems for the well-being of self and others
  - 2.00.01.01 Differentiate between facts and assumptions.
  - 2.00.01.02 Develop inferences from data.
  - 2.00.01.03 Demonstrate an ability to evaluate arguments.
  - 2.00.01.04 Utilize deductive logic by predicting specific phenomena from general statements.
- \*2.00.02.00 Apply problem-solving process to personal, family, and work-related problems for well-being of self and others
  - 2.00.02.01 Analyze and clarify own value structure.
  - 2.00.02.02 Evaluate the relationship between values and goals
  - 2.00.02.03 Establish priorities for short and long-term goals
  - 2.00.02.04 Describe the importance of flexibility when reevaluating goals
  - 2.00.02.05 Manage resources to achieve goals
  - 2.00.02.06 Identify adequate reliable information and resources for personal, family, and work-related problem solving.
  - 2.00.02.07 Create solutions to problems using technical means
  - 2.00.02.08 Compare and contrast the advantages and disadvantages of several solutions to a problem.
  - 2.00.02.09 Evaluate outcomes of a decision.
  - 2.00.02.10 Apply decision-making techniques in the workplace
  - 2.00.02.11 Apply technical problem solving abilities and creative talents to situations in the workplace



2.00.03.00 As	ssume a leadership role as a responsible family member and citizen
2.00.03.01	Evaluate leadership styles appropriate for the workplace and/or home
2.00.03.02	Identify ways to be a responsible citizen at home, at school, at work, and in community settings
2.00.03.03	Develop effective communication skills.
2.00.03.04	Determine ways to motivate others
2.00.03.05	Demonstrate initiative to facilitate cooperation
*2.00.04.00 Bu	uild and maintain constructive interpersonal relationships
2.00.04.01	Assess and be sensitive to others' feelings and point of view
2.00.04.02	Examine how individuals from various backgrounds contribute to work and personal situations
2.00.04.03	Identify ways to work cooperatively with others of diverse background
2.00.04.04	Analyze strategies to manage conflict
2.00.04.05	Cooperate and compromise through teamwork and group participation
2.00.04.06	Develop communication patterns that enhance family relationships
2.00.04.07	Identify characteristics of love and commitment with family, friends, and others
2.00.04.08	Understand ways to build and maintain strong, functional families
2.00.04.09	Understand ways to build positive parent-child relationships
2.00.04.10	Enhance personal development of self and others throughout the lifespan
2.00.04.12	Develop a life-management plan
*2.00.05.00 D	evelop skills to successfully cope with changes taking place in society.
2.00.05.01	Analyze the effects of change
2.00.05.02	Identify strategies for dealing with family change and stress



2.00.05.03	Identify family and work support resources and services
2.00.05.04	Evaluate the need for continuing education and training
2.00.05.05	Implement strategies to manage the effects of stress
	entify management strategies for balancing work and family roles and sponsibilities
2.00.06.01	Analyze the effects of work on family
2.00.06.02	Analyze the effects of family on work
2.00.06.03	Describe personal and family roles and issues
2.00.06.04	Identify present and future family structures and responsibilities
2.00.06.05	Analyze concerns of working parent(s)
2.00.06.06	Evaluate importance of responsible parenting for individuals, families, and society
2.0.0.06.07	Coordinate personal and career responsibilities for well-being of self and others
*2.00.07.00 D	evelop strategies for lifelong career planning
2.00.07.01	Assess knowledge, attitudes, skills, and aspirations
2.00.07.02	Develop an awareness of careers and skills in a technological society.
2.00.07.03	Complete and process job application forms
2.00.07.04	Design a resume
2.00.07.05	Demonstrate interviewing skills
2.00.07.06	Compare and evaluate job opportunities
2.00.07.07	Analyze organizational structures of the workplace
2.00.07.08	Assess factors influencing wages, annual incomes, and job opportunities
2.00.07.09	Identify strategies for keeping a job, advancing in a job, and increasing wages



	2.00.07.10	Evaluate factors involved when assuming a new position within or outside an occupation/ organization
	2.00.07.11	Identify strategies for dealing with career successes, changes, and/or disappointments
	2.00.07.12	State the approximate number of years a person can expect to work after leaving high school.
	2.00.07.13	Compare the advantages and disadvantages of multiple incomes
	2.00.07.14	Analyze opportunities for personal and career growth
	2.00.07.15	Evaluate career choices in relation to life-management plan
	2.00.07.16	Formulate plan to achieve career goals
*2.	00.80.00	evelop habits and attitudes that reflect an appropriate work ethic.
	2.00.08.01	Analyze the value of work ethic in relation to personal and family values and goals
	2.00.08.02	Evaluate the relationship of self-esteem to work ethic
	2.00.08.03	Follow directions.
•	2.00.08.04	Identify strategies to improve workplace policies and attitudes that support individuals and families.
	2.00.08.05	Develop a positive attitude
	2.00.08.06	Develop time management skills.
*2.		stablish a plan for using resources to meet individual and family needs nd goals
	2.00.09.01	Analyze consumer rights and responsibilities
	2.00.09.02	Make informed consumer choices for the well-being of self and others
	2.00.09.03	Discuss the role of competitiveness in a global society.
	2.00.09.04	Make decisions related to selecting, obtaining, and maintaining clothing for self and family



	2.00.09.05	Evaluate financial institutions and services (e.g., savings, investments, credit).		
	2.00.09.06	Plan strategies to facilitate self-responsibility in managing a financial plan		
*2.	00.10.00 Ev	valuate entrepreneurship as a career option		
	2.00.10.01	Evaluate the role of small business in the economy		
	2.00.10.02	Analyze opportunities for new business.		
	2.00.10.03	Examine considerations of starting a business		
	2.00.10.04	Analyze responsibilities involved in managing a business.		
	2.00.10.05	Examine factors involved in obtaining financing.		
	2.00.10.06	Examine importance of effective record keeping.		
	2.00.10.07	Examine factors involved in selecting a business location.		
	2.00.10.08	Analyze importance of a customer service policy.		
	2.00.10.09	Analyze how laws affect small business operations.		
	2.00.10.10	Examine components of a marketing plan.		
	2.00.10.11	Analyze importance of a business plan.		
*2.00.11.00 Make choices that promote wellness and good health for self and others				
	2.00.11.01	Describe the significance of a healthy lifestyle		
	2.00.11.02	Analyze interrelationship between food choices and wellness		
	2.00.11.03	Identify strategies to promote optimal nutrition and wellness of individuals and families		
	2.00.11.04	Prepare and serve nutritious foods		
	2.00.11.05	Demonstrate proper use of equipment		
	2.00.11.06	Maintain safe work and home environment		



2.00.11.07	Identify substance use, abuse, and its effects on individuals, families, work and society.
2.00.11.08	Enhance self-esteem of self and others
2.00.11.09	Distinguish between responsible and irresponsible ways to express emotional and physical intimacy
2.00.11.10	Examine the role of the arts in cultural expression and identity.
2.00.11.11	Explore the significance of a variety of art forms.



#### MATHEMATICS LITERACY

#### Algebra

- \*3.01.01.00 Solve linear equations.
  - 3.01.01.01 Combine like terms.
  - 3.01.01.02 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.
  - 3.01.01.03 Solve equation in one variable utilizing one operation.
  - 3.01.01.04 Solve equations in one variable utilizing two or more operations.
  - 3.01.01.05 Describe and use the logic of equivalence in working with equations, inequalities, and functions.
  - 3.01.01.06 Identify variables, constants, terms, e expressions, and coefficients.
  - 3.01.01.07 Define absolute value.
  - 3.01.01.08 Evaluate algebraic expressions.
  - 3.01.01.09 Solve the literal equation or formula for a specified variable.
  - 3.01.01.10 Recognize the properties of equalities.
  - 3.01.01.11 Solve a 2x2 system of linear equations by elimination.
  - 3.01.01.12 Solve a 2x2 system of linear equations by substitution.
  - 3.01.01.13 Apply the rules for solving linear equations in one variable.
  - 3.01.01.14 Use formulas.
  - 3.01.01.15 Use handheld graphic calculators to solve linear equations and graph simple functions.
  - 3.01.01.16 Solve linear equations in one variable containing an absolute value symbol.



- \*3.01.02.00 Use properties of exponents.
  - 3.01.02.01 Define exponent.
  - 3.01.02.02 Compare and compute using scientific notation.
  - 3.01.02.03 Determine values for the square root of any natural number.
  - 3.01.02.04 Determine the principal square root and recognize square roots of negatives as being non-real.
  - 3.01.02.05 Divide terms having factors with exponents.
  - 3.01.02.06 Multiply and divide polynomial expressions.
  - 3.01.02.07 Operate with radicals and leave the result in simplified form.
  - 3.01.02.08 Apply the properties of exponents to simplify polynomial expressions.
  - 3.01.02.09 Multiply terms having factors with exponents.
  - 3.01.02.10 Solve radical equations.
- \*3.01.03.00 Factor a polynomial of two or more terms.
  - 3.01.03.01 Apply the distributive law in removing common factors.
  - 3.01.03.02 Factor difference of two squares.
  - 3.01.03.03 Factor quadratic trinomials.
  - 3.01.03.04 Factor the sum and differences of perfect cubes.
- \*3.01.04.00 Solve linear inequalities and show the solution on a number line.
  - 3.01.04.01 Combine like terms.
  - 3.01.04.02 Use the Substitution Property to evaluate expressions and formulas.
  - 3.01.04.03 Evaluate algebraic expressions.
  - 3.01.04.04 Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.



3.01.04.05	Identify variables, constants, terms, expressions, and coefficients.
3.01.04.06	Solve equations in one variable utilizing two or more operations.
3.01.04.07	Describe and use the logic of equivalence in working with equations, inequalities, and functions.
3.01.04.08	Solve a linear inequality in one variable using two or more operations.
3.01.04.09	Define absolute value.
3.01.04.10	Solve problems involving statements of inequality.
0	ecognize, relate, and use the equivalent ideas of zeros of a function, roots f an equation, and solution of an equation in terms of graphical and ymbolic representations.
3.01.05.01	Apply the distributive law in removing common factors.
3.01.05.02	Factor the difference of two squares.
3.01.05.03	Factor quadratic trinomials.
3.01.05.04	Combine like terms.
3.01.05.05	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions.
3.01.05.06	Solve equation in one variable utilizing one operation.
3.01.05.07	Solve equations in one variable utilizing two or more operations.
3.01.05.08	Describe and use the logic of equivalence in working with equations, inequalities, and functions.
3.01.05.09	Identify variables, constants, terms, expressions, and coefficients.
3.01.05.10	Explore and describe characterizing features of functions.
3.01.05.11	Find X and Y intercepts of a line.
3.01.05.12	Decide whether or not a relation is a function. Use function notation. Find domains and ranges.



- \*3.01.06.00 Graph equations.
  - 3.01.06.01 Develop graphical techniques of solution for problem situations involving functions
  - 3.01.06.02 Explore and describe characterizing features of functions.
  - 3.01.06.03 Describe problem situations by using and relating numerical, symbolic, and graphical representations
  - 3.01.06.04 Use the language and notation of functions in symbolic and graphing settings.
  - 3.01.06.05 Find X and Y intercepts of a line.
  - 3.01.06.06 Write equations for a line.
  - 3.01.06.07 Use a graphing calculator or computer to generate the graph of EL function.
  - 3.01.06.08 Graph a linear equation using the slope-intercept method.
  - 3.01.06.09 Translate among tables, algebraic expressions, and graphs of functions
  - 3.01.06.10 Estimate shape of graphs of various functions and algebraic expressions.
  - 3.01.06.11 Use handheld graphic calculators to solve linear equations and graph simple functions.
  - 3.01.06.12 Graph basic functions using Cartesian coordinate system.
- \*3.01.07.00 Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form.
- \*3.01.08.00 Determine slope midpoint, and distance.
  - 3.01.08.01 Solve problems related to sets of points on a Cartesian coordinate system.
- \*3.01.09.00 Model real-world phenomena with polynomial and exponential functions.
  - 3.01.09.01 Use curve fitting to predict from data.



#### Geometry

(Note: It is appropriate to teach geometry to Tech Prep students with some theorems and proofs, but for maximum student engagement and success, the major focus should be on the more practical aspects of geometry, such as calculating volumes, surfaces, etc.)

- \*3.02.01.00 Find perimeters, surface areas and volumes of geometric figures.
  - 3.02.01.01 Recognize and classify two- and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism).
  - 3.02.01.02 Create and interpret drawings of three-dimensional objects.
  - 3.02.01.03 Classify, label, and describe polygons and solids.
  - 3.02.01.04 Represent problem situations with geometric models and apply properties of figures.
  - 3.02.01.05 Use handheld graphic calculators to solve area and volume problems.
  - 3.02.01.06 Given the linear dimensions of various geometric shapes common to the techno-- logical industries, determine areas and volumes in English and metric units.
- \*3.02.02.00 Explore compass and straight edge constructions in the context of geometric theorems.
- \*3.02.03.00 Recognize, classify, and use properties of lines and angles.
  - 3.02.03.01 Demonstrate an understanding of angles and parallel and perpendicular lines.
  - 3.02.03.02 Define terms related to angles.
  - 3.02.03.03 Make constructions related to angles.
  - 3.02.03.04 Demonstrate an understanding of special angles.
  - 3.02.03.05 Understand the various units of measure of angles.
  - 3.02.03.06 Identify points, lines, and planes.
  - 3.02.03.07 Use the concept of between-ness.
  - 3.02.03.08 Measure angles correctly.



- \*3.02.04.00 Describe and apply the properties of similar and/or congruent figures.
  - 3.02.04.01 Be able to make scale drawings.
- \*3.02.05.00 Solve right-triangle problems.
  - 3.02.05.01 Apply the Pythagorean theorem.
  - 3.02.05.02 Identify basic functions of sine, cosine, and tangent
  - 3.02.05.03 Compute and solve problems using basic trig functions.
- \*3.02.06.00 Demonstrate inductive and deductive reasoning through application to various subject areas.
  - 3.02.06.01 Demonstrate an understanding of and ability to use proof.

#### **Numbers and Number Relations**

- \*3.03.01.00 Estimate answers, compute, and solve problems involving real numbers.
  - 3.03.01.01 Round off decimals to one or more places
  - 3.03.01.02 Round and/or truncate numbers to designated place value.
  - 3.03.01.03 Round off single and multiple digit whole numbers.
  - 3.03.01.04 Estimate measurements.
  - 3.03.01.05 Use mental computation when computer and calculator are inappropriate.
- \*3.03.02.00 Compare and contrast the real number system, the rational number system' and the whole number system.
- \*3.03.03.00 Determine if a solution to a mathematical problem is reasonable (estimate).
- \*3.03.04.00 Select and compute using appropriate units of measure.
  - 3.03.04.01 Convert, compare, and compute with common units of measurement within and/or across measurement systems.



#### **Data Analysis and Probability**

- \*3.04.01.00 Collect and organize data into tables, charts, and graphs.
  - 3.04.01.01 Take a random sample from a population.
- \*3.04.02.00 Determine the probability of an event.
  - 3.04.02.01 Determine the probability of more than one event.
  - 3.04.02.02 Use computer simulations and random number generation to estimate probability.
- \*3.04.03.00 Understand and apply measures of central tendency, variability, and correlation.
  - 3.04.03.01 Compute and interpret means (averages).
  - 3.04.03.02 Compute and interpret median and/or mode.
  - 3.04.03.03 Understand what a normal distribution is.
  - 3.04.03.04 Understand what a uniform distribution is.

#### Technical Algebra

- \*3.05.01.00 Evaluate and graph functions using rectangular coordinates.
  - 3.05.01.01 Graph inequalities in two variables.
  - 3.05.01.02 Analyze the effects of parameter changes on graphs.
- \*3.05.02.00 Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods.
  - 3.05.02.01 Solve systems of linear equations with up to three variables.
  - 3.05.02.02 Solve a 2x2 system of linear equations using matrices.
  - 3.05.02.03 Describe and solve algebraic situations with matrices.



	nderstand the complex number system and exhibit facility with its peration.
3.05.03.01	Solve problems having complex solutions.
3.05.03.02	Examine complex numbers as zeros of functions.
3.05.03.03	Graph basic functions using polar coordinate system.
3.05.03.04	Graph using polar coordinates.
3.05.03.05	Contrast and compare algebras of rational, real, and complex numbers with characteristics of a matrix algebra system.
3.05.03.06	Determine factors and roots of a polynomial with complex roots.
3.05.03.07	Graph complex numbers.
3.05.03.08	Add, subtract, multiply and divide complex numbers in rectangular and polar form.
3.05.03.09	Convert complex numbers from rectangular form to the exponential.
*3.05.04.00	Analyze exponential and logarithmic functions.
3.05.04.01	Identify and define inverse functions.
3.05.04.02	Do calculations involving exponential and logarithmic expressions and functions.
3.05.04.03	Use definitions to show the relationship between exponential and logarithmic functions.
3.05.04.04	Graph the logarithmic and exponential functions.
3.05.04.05	Describe and use inverse relationship between functions including exponential and logarithmic.
3.05.04.06	Use graphing calculators to generate tables to plot exponential and logarithmic curves.
3.05.04.07	Use properties of logarithms to solve problems.
3.05.04.08	Use graphing calculators to calculate logarithms in bases other than 10.



- 3.05.04.09 Solve elementary logarithmic and exponential equations.
- \*3.05.05.00 Simplify and solve quadratic equations.
  - 3.05.05.01 Simplify algebraic expressions and multiply and divide polynomials along with solving quadratic equations.
  - 3.05.05.02 Solve a quadratic equation by factoring by completing the square, and by using the quadratic formula.

#### **Technical Trigonometry**

- \*3.06.01.00 Solve problems using the trigonometric functions.
  - 3.06.01.01 Know the sign of each circular function in any quadrant.
  - 3.06.01.02 Know the circular functions of the special angles, pi/6, pi/4, pi/3 (30, 60, 90)
  - 3.06.01.03 Define the circular functions on a circle of radius r with the center at the origin.
  - 3.06.01.04 Understand the relationship of the circular functions and the trig functions.
  - 3.06.01.05 Identify and use the trig functions for the sum of angles.
  - 3.06.01.06 Solve right-triangle problems.
  - 3.06.01.07 State the value of the trig functions of an angle using the reference angle.
  - 3.06.01.08 Apply the law of sines to find measures of sides of angles of a triangle.
  - 3.06.01.09 Apply the law of cosines in finding measures of sides and angles of triangles.
  - 3.06.01.10 Convert between radians and degrees.
  - 3.06.01.11 Solve problems with negative rotations.
  - 3.06.01.12 Solve right triangle problems including application problems.



*3.06.02.00 Recognize and identify graphs of the trigonometric functions.			
3.06.02.01	Recognize and graph basic trig curves.		
3.06.02.02	Explore graphs in three dimensions.		
3.06.02.03	Identify and define inverse functions.		
3.06.02.04	Solve trigonometric equations and verify trigonometric identities.		
3.06.02.05	Use the fundamental trig identities in performing operations.		
*3.06.03.00 Demonstrate an understanding in the use of vectors.			
3.06.03.01	Apply vectors in problem solutions		
3.06.03.02	Deduce properties of figures using vectors.		
3.06.03.03	Develop and use vectors to represent distance and magnitude including operations.		
3.06.03.04	Explore relationships between complex numbers and vectors.		
3.06.03.05	Add and subtract vectors geometrically.		
3.06.03.06	Use graphing calculators in the study of vectors.		



#### SCIENCE LITERACY

#### Chemistry

- \*4.01.01.00 Explore atomic theory and present findings using various representational formats.
  - 4.01.01.01 Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic.
  - 4.01.01.02 Relate the concept of periodicity to atomic properties and the periodic table of elements.
  - 4.01.01.03 Describe charge and ionic compounds in the context of electrochemical theories.
  - 4.01.01.04 Recognize that the atomic model is only a model and, like any model, is subject to change.
  - 4.01.01.05 State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models.
  - 4.01.01.06 Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations.
- \*4.01.02.00 Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy.
  - 4.01.02.01 State a scheme of matter which includes elements, compounds, and mixtures.
  - 4.01.02.02 Relate a chemical equation to the concept of chemical change.
  - 4.01.02.03 Classify matter according to properties and composition.
  - 4.01.02.04 Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature.
  - 4.01.02.05 Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge.
  - 4.01.02.06 Describe properties of carbon and organic molecules.



State the laws of chemical combinations (conservation of mass, definite 4.01.02.07 composition, multiple proportions). 4.01.02.08 List assumptions of the kinetic theory of matter. Understand chemical changes during combustion, and the relationship 4.01.02.09 between these changes and the carbon cycle, and relationship to the greenhouse effect. Manipulate data in problem solving, including: mole problems, 4.01.02.10 concentration problems, gas law problems, atomic/molecular structure problems and equation balancing. 4.01.02.11 Discuss the concept of mole. 4.01.02.12 State the properties of gases and the laws that apply to gases. Identify applications of Avogadro's hypothesis such as Avogadro's 4.01.02.13 number, molar volume, and gram molecular weight/molar mass. Use the kinetic molecular theory to explain states of matter, rates of 4.01.02.14 reaction, and chemical equilibrium. 4.01.02.15 Describe Stoichiometric relationships

#### Biology/Ecology

- \*4.02.01.00 Using models and explorations, examine cellar components and their relationships.
  - 4.02.01.01 Describe the cell theory; structure and function.
  - 4.02.01.02 Describe the role of nucleic acids in cell functions and heredity.
  - 4.02.01.03 Describe the events of mitosis and meiosis.
  - 4.02.01.04 State Mendel's laws of heredity.
  - 4.02.01.05 List causes and effects of gene mutations and chromosomal aberrations.
  - 4.02.01.06 Describe current advances in genetic engineering and possible applications in agriculture and medicine.



- \*4.02.02.00 Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms.
  - 4.02.02.01 List characteristics of living organisms.
  - 4.02.02.02 Classify common organisms by observable characteristics.
  - 4.02.02.03 Describe how living organisms are classified.
  - 4.02.02.04 List characteristics of organisms in each kingdom.
  - 4.02.02.05 Explain the difference between viruses and bacteria.
- \*4.02.03.00 Formulate an understanding of the relationship about organisms, their physical surroundings and their change processes.
  - 4.02.03.01 Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem.
  - 4.02.03.02 Define natural selection and list evidence for its existence.
  - 4.02.03.03 Discuss the development of Darwin's theory of evolution.
  - 4.02.03.04 Discuss hypotheses of the origin of life.
  - 4.02.03.05 Identify ways to take responsibility for living in a global environment
  - 4.02.03.06 Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification.
  - 4.02.03.07 Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms.
  - 4.02.03.08 Describe how human activities interfere with biological diversity.
- \*4.02.04.00 Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition.
  - 4.02.04.01 Explain the relationship between microorganisms and disease .



4.02.04.02	Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
4.02.04.03	Distinguish between myths and realities of the HIV virus and AIDS.
4.02.04.04	Explain the relationship between anatomical structure and function.
4.02.04.05	Identify structures in human physiology

#### **Physics**

- \*4.03.01.00 Analyze changes within a system when inputs, outputs, and interactions are altered to explain the behavior of charges.
  - 4.03.01.01 Describe electrical energy, including the interaction of matter and energy and energy transformation.
  - 4.03.01.02 Describe the properties of magnetic fields, electrical fields, and electrical charges.
  - 4.03.01.03 Identify and describe basic electrical systems components and theories.
- \*4.03.02.00 Using measuring and mathematical techniques, apply the laws of motion and conservation to real physical systems.
  - 4.03.02.01 Describe energy transfers and transformations of a system utilizing conservation laws.
  - 4.03.02.02 Describe motion in the context of Newton's Law: linear and rotational.
  - 4.03.02.03 Define work and energy and relate these concepts to kinetic energy, potential energy, and conservation of energy.
  - 4.03.02.04 Define temperature and heat in units commonly used for each.
  - 4.03.02.05 Identify the causes and effects of motion.
  - 4.03.02.06 Use vector analysis (mathematical and graphical) to represent and solve force system problems.



- \*4.03.03.00 Analyze the heat energy changes within a system as related to the laws of thermodynamics.
  - 4.03.03.01 State first and second laws of thermodynamics.
  - 4.03.03.02 Define specific heat capacity and latent heat.
  - 4.03.03.03 Discuss the concept of entropy.
- \*4.03.04.00 Using the knowledge gained through experimentation of the characteristics of waves, predict how waves will behave as they interact with each other and various materials.
  - 4.03.04.01 Describe sound systems, including the interaction of matter and energy and energy transformation.
  - 4.03.04.02 Identify the general areas of the electromagnet ice spectrum.
  - 4.03.04.03 Describe reflection and refraction as applied to mirrors and optical instruments (lenses).
  - 4.03.04.04 Describe the particle and wave theories of light.

#### **Laboratory Safety Procedures**

- \*4.04.01.00 Identify and be able to manipulate lab apparatus and materials safely.
- \*4.04.02.00 Demonstrate familiarity with lab safety equipment (e.g., eyewash, fire blanket & extinguisher, shower, etc.).

#### **Scientific Process**

- \*4.05.01.00 Using sound experimental designs, formulate hypotheses and models that account for observable events.
  - 4.05.01.01 Describe the role of observation and experimentation in the development of scientific theories.
  - 4.05.01.02 Describe the importance of the use of models in scientific thought.
  - 4.05.01.03 Recognize that scientific models are only representations of phenomena and may in fact be faulty or deficient.
  - 4.05.01.04 Investigate some of the ethical dilemmas of the scientist.



Identify and define a scientific problem. 4.05.01.05 Ask appropriate scientific questions and recognize what is involved in 4.05.01.06 experimental approaches to the solutions of such questions through familiarity with laboratory and field work. Identify problems rooted in science and technology (effects of hazardous 4.05.01.07 materials on health and safety, effects of drugs on health, troubleshooting problems on a machine). \*4.05.02.00 Use sound experimental designs and models to test hypotheses. Distinguish among fact, hypothesis, and opinion; the relevant from the 4.05.02.01 irrelevant; and the model from the observations the model was derived to describe. 4.05.02.02 Check the logical consistency of hypothesis with relevant laws, facts, observations, or experiments. 4.05.02.03 Read scientific materials critically. 4.05.02.04 Gather scientific information through library work. 4.05.02.05 Investigate areas of specialization in science. 4.05.02.06 Apply basic scientific/technical solutions to selected problems. Employ scientific laws and principles in familiar or unfamiliar situations. 4.05.02.07 4.05.02.08 Make predictions from data using concepts, laws, and theories. 4.05.02.09 Use facts, concepts, laws, and theories to explain phenomena. 4.05.02.10 Predict the effects of changing variables in a given situation. 4.05.02.11 Suggest or recognize a scientific hypothesis. 4.05.02.12 Construct a hypothetical model. 4.05.02.13 Make direct measurements using laboratory apparatus.

4.05.02.14 Design, conduct, and evaluate an experiment.

4.05.02.15 Use sampling techniques.



- 4.05.02.16 Propose or select validating procedures (both logical and empirical).
- 4.05.02.17 Analyze experimental designs.
- 4.05.02.18 Demonstrate concern for issues related to measurement (e.g., reliability and validity).
- \*4.05.03.00 Using observations derived from experimental data, draw conclusions or make inferences.
  - 4.05.03.01 Interpret data; i.e., comprehend the meaning of data and recognize, formulate, and evaluate conclusions and generalizations on the basis of information known or given.
  - 4.05.03.02 Interpret information presented in pictures, drawings, charts, graphs, mathematical expressions, and scientific literature.
  - 4.05.03.03 Reason quantitatively and symbolically.
  - 4.05.03.04 Interpret observations of experiments and analyze these to determine patterns, state inferences, and/or draw conclusions.
  - 4.05.03.05 Interpret experimental observations using facts, concepts, laws, and theories.
- \*4.05.04.00 Organize and communicate the results obtained by observation and experimentation.
  - 4.05.04.01 Sequence events according to the order of occurrence.
  - 4.05.04.02 Describe ways scientists communicate their results.
  - 4.05.04.03 Demonstrate the ability to summarize empirical findings clearly and concisely in written form.



#### SOCIAL/CULTURAL LITERACY

#### Growth of Social Political, and Economic Institutions

- \*5.01.01.00 Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals.
- \*5.01.02.00 Explain reasons for European settlement in the New World, the development of divergent political ideology and development of a new nation.
- \*5.01.03.00 Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution)
  - 5:01.03.01 Explain the purpose and contents of the Bill of Rights.
  - 5.01.03.02 Demonstrate an understanding of federalism (local, state, national).
  - 5.01.03.03 Identify the main function of each branch (legislative, executive, judicial) at different levels.
  - 5.01.03.04 Describe the process for making, amending or removing laws.
  - 5.01.03.05 Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc.
- \*5.01.04.00 Describe the political process.
  - 5.01.04.01 Understand the role of political parties in a democracy.
  - 5.01.04.02 Understand the role of public officials and how policy is carried out.
  - 5.01.04.03 Describe strengths and weaknesses of the American System.
  - 5.01.04.04 Describe how resources are gathered to support the process and policies.
- \*5.01.05.00 Compare and contrast political systems.
  - 5.01.05.01 Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships.



- 5.01.05.02 Identify international governing bodies (e.g., United Nations, League of Nations, World Bank, European Economic Community, Organization of American States, etc.) and their impact.
- \*5.01.06.00 Compare the culture, customs, and traditions of different ethnic and minority groups in America.
  - 5.01.06.01 Be aware of the diverse social, psychological, political, and economic factors which influence lifestyles.
  - 5.01.06.02 Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers.
  - 5.01.06.03 Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System.
  - 5.01.06.04 Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World.
- \*5.01.07.00 Know that individuals and societies make choices to satisfy wants with limited resources.
  - 5.01.07.01 Develop an understanding of economic systems.
  - 5.01.07.02 Develop an understanding of the structure and functions of the American economy.
  - 5.01.07.03 Recognize the uneven distribution of world resources.
  - 5.01.07.04 Describe the role of technological growth in economic development and the impact of technology on the physical and human environment.

#### **Human Diversity and Historical/Current Issues**

- \*5.02.01.00 Describe the causes and effects of selected wars.
- \*5.02.02.00 Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements.
  - 5.02.02.01 Recognize diversity among significant individuals
  - 5.02.02.02 Recognize diversity among significant organizations



5.02.02.03	Recognize diversity surrounding immigration
5.02.02.04	Recognize diverse ethnic and minority groups
5.02.02.05	Recognize major world religions
5.02.02.06	Describe the relationship between diversity and historical development and contributions
	escribe how an individual interacts with the various societal, economic, and political systems.
5.02.03.01	Be aware of the diverse social, psychological, political and economic factors which influence lifestyles.
5.02.03.02	Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds.
5.02.03.03	Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement.
5.02.03.04	Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society.
5.02.03.05	Identify and discuss career opportunities.

#### **Analyzing Information**

*5.03.01.00	Differentiate between primary and secondary sources of information.
*5.03.02.00	Illustrate that information can be influenced by cultural bias or propaganda.
*5.03.03.00	Analyze and explain social, cultural and political problems and suggest remedies to those problems.
*5.03.04.00	Compare and contrast culture, customs and traditions of ethnic and minority groups.
*5.03.05.00	Analyze social forces that influence family life.
*5.03.06.00	Demonstrate the ability to use information that enables citizens to make informed choices.



*5.03.07.00	Communicate and cooperate with people of different cultural backgrounds.
*5.03.08.00	Collect and analyze information from charts, graphs, maps, and pictures.
*5.03.09.00	Identify and explain how world problems and future trends will impact his or her life.
*5.03.10.00	Describe and discuss world patterns of population, geographic landforms, climate regions, and economic activities.
*5.03.11.00	Identify opportunities for involvement in civic activities.



#### TECHNOLOGY LITERACY

#### Impact of Technology

- \*6.01.01.00 Develop an awareness of the need and function of technology in society.
  - 6.01.01.01 Explore cause and effect linkages between technology and the environment.
  - 6.01.01.02 Explain how technological change can affect all technology.
  - 6.01.01.03 Evaluate the impact of technology on people, the environment, culture, the economy, and community.
  - 6.01.01.04 Explain how business and industry are related to the larger context of technology, industry, and society.
  - 6.01.01.05 Describe the way in which technological systems have affected social changes and patterns in our society.
  - 6.01.01.06 Explore how people use technology to solve problems.
- \*6.01.02.00 Develop an awareness of the significance of technology in the past, present, and future.
- \*6.01.03.00 Explain the interrelationships between business, industry, and society.
  - 6.01.03.01 Evaluate the impact of infrastructure deterioration on people, the environment, and the economy.
- \*6.01.04.00 Analyze the role of ethics in technological decision making.
  - 6.01.04.01 Research the social effects of technology and identify ethical implications that develop.
  - 6.01.04.02 Recognize that all technological endeavors yield positive and negative side effects.
  - 6.01.04.03 Describe the impact of government on the use of technology.
  - 6.01.04.04 Describe copyright laws and issues as they apply to software.
  - 6.01.04.05 Describe security/privacy issues related to the use of computers.



\*6.01.05.00 Explain the interrelationship between business, industry, and community.

#### Technology in the Workplace

- \*6.02.01.00 Describe the importance of product quality control.
  - 6.02.01.01 Participate in project-oriented quality control exercises.
- \*6.02.02.00 Describe the importance of the quality control process.
  - 6.02.02.01 Explain how improved quality leads to improved productivity, competitive position, and profitability.
  - 6.02.02.02 Define the principles of team management.
  - 6.02.02.03 Describe the importance of statistical process control.
  - 6.02.02.04 Plan team meetings.
  - 6.02.02.05 Cite examples of companies that have benefitted from quality efforts.
- \*6.02.03.00 Solve problems utilizing a systems approach.
  - 6.02.03.01 Apply brainstorming as a method for generating ideas.
  - 6.02.03.02 Apply cause and effect analysis.
  - 6.02.03.03 Evaluate results and make modification to improve a solution.
  - 6.02.03.04 Compile and analyze experimental or design data.
  - 6.02.03.05 Seek new knowledge, synthesize this information, and formulate it into a report or use it in solving a defined problem.
  - 6.02.03.06 Use a research and development process common to industry to solve problems (integrating a variety of productivity analysis skills).
  - 6.02.03.07 Learn how to reach a group consensus.
  - 6.02.03.08 Distinguish between open and closed loop systems.



- \*6.02.04.00 Define productivity and its relationship to management concepts.
  - 6.02.04.01 Develop an action plan that details what, when, and by whom, action will be taken for performance improvement.
  - 6.02.04.02 Demonstrate the ability to apply management and planning tools such as flow charts, check sheets, cause and effect diagrams, control charts, etc.
  - 6.02.04.03 Describe and use the Plan-Do-Check-Act process.
  - 6.02.04.04 Describe input, process, output systems.
- \*6.02.05.00 Given an industry or a company, identify "customers."
- \*6.02.06.00 Develop the ability to function as a member of small or large groups.
  - 6.02.06.01 Learn how to reach a group consensus.
  - 6.02.06.02 Participate in at least one decision-making responsibility role of a hypothetical enterprise.
  - 6.02.06.03 Demonstrate effective negotiation skills.
  - 6.02.06.04 Demonstrate effective delegation skills.
  - 6.02.06.05 Describe the purpose of unions.
- \*6.02.07.00 Describe the free enterprise system.
  - 6.02.07.01 Describe a simplified version of a patent application process to ensure protection of ideas and control of disclosure.

#### Technological Tools and Techniques

- \*6.03.01.00 Describe basic computer operations.
- \*6.03.02.00 Operate computer hardware.
  - 6.03.02.01 Demonstrate keyboarding proficiency.
  - 6.03.02.02 Demonstrate the ability to utilize various peripherals.
  - 6.03.02.03 Access information networks of a variety of types.



- 6.03.02.04 Identify and describe the function of the major hardware components comprising a personal computer.
- \*6.03.03.00 Utilize a variety of software.
  - 6.03.03.01 Prepare reports, resumes, or memoranda using a word processing package.
  - 6.03.03.02 Describe what a database is and what it is used for.
  - 6.03.03.03 Demonstrate general knowledge of CAD and CAM technologies.
  - 6.03.03.04 Describe the major types and applications of software.
  - 6.03.03.05 Determine the availability of resources through information networks.
  - 6.03.03.06 Operate desktop publishing systems.
  - 6.03.03.07 Access external computers using a modem.
  - 6.03.03.08 Utilize information management systems.
  - 6.03.03.09 Utilize a spreadsheet package.
  - 6.03.03.10 Apply basic commands to format disks, copy files, create directories, delete files, change default drives, and access software packages for a variety of computer systems.
- \*6.03.04.00 Use basic technological language accurately across a variety of technologies.
  - 6.03.04.01 Demonstrate familiarity with different types of language forms used in various technologies, i.e., graphic, symbolic, and verbal.
  - 6.03.04.02 Recognize that different technologies use jargon specific to those technologies.
  - 6.03.04.03 Describe the resources necessary for technology resource people: i.e., information, materials, tools/machines, capital, energy, and time.
- \*6.03.05.00 Visualize and describe two- and three-dimensional space.
  - 6.03.05.01 Demonstrate familiarity with the basic types of engineering drawings.



- 6.03.05.02 Illustrate and/or describe 3-D objects from different points of view (front, back, side, etc.)
- 6.03.05.03 Develop a three-dimensional mental and physical representation of an object from a two-dimensional drawing.
- 6.03.05.04 Visualize and present product ideas
- \*6.03.06.00 Utilize two- and three-dimensional drawings.
  - 6.03.06.01 Represent a three-dimensional object in a two-dimensional drawing.
  - 6.03.06.02 Refine and communicate project ideas.
- \*6.03.07.00 Create a three-dimensional drawing.
- \*6.03.08.00 Develop responsible attitudes toward safety around technology.
  - 6.03.08.01 Demonstrate the safe and correct handling of hazardous materials and processes.
  - 6.03.08.02 Demonstrate proper use of common hand and power tools.
- \*6.03.09.00 Use measuring devices.
  - 6.03.09.01 Perform linear measuring procedures.
  - 6.03.09.02 Perform volume measuring procedures.
  - 6.03.09.03 Demonstrate the accurate use of architectural and engineering scales.
  - 6.03.09.04 Perform temperature measuring procedures.
- \*6.03.10.00 Demonstrate factors affecting the selection and use of material resources.
  - 6.03.10.01 Explore the utilization of tools and materials in engineering applications.
  - 6.03.10.02 Describe the major properties of materials.
  - 6.03.10.03 Safely perform some common secondary materials processing activities (e.g., drilling, milling, turning, and grinding).



- \*6.03.11.00 Choose appropriate resources.
  - 6.03.11.01 Perform selected tests to determine materials properties and appropriateness for various uses.
- \*6.03.12.00 Use multimedia equipment.
  - 6.03.12.01 Create multimedia presentations.
- \*6.03.13.00 Demonstrate an understanding of the roles and importance of electronics in contemporary technology
  - 6.03.13.01 Describe what is meant by electronics technology.
  - 6.03.13.02 List where electronics technology is used.
  - 6.03.13.03 Describe why electronics technology is used.



# HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART III:
Tech Prep Secondary Competencies (Leveled)



# HEART OF OHIO MULTI-COMPETENCY HEALTH TECHNOLOGIES

Eastland Vocational School's Allied Health

# ACADEMIC AND TECHNICAL LEVELED COMPETENCIES

June 1996



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#### **ACADEMIC COMPETENCIES:**

Academic Expectations	s: All students will be enrolled in the following cou	urse sequence:
JUNIOR YEAR	Communications (Eng 100) (competencies to students to place into English 111  Analytical Algebra III (Math 103 and 104)  Social Studies (American Culture/Governmen Biology (competencies identified for Bio 102  Physiology) - Students are also expected competencies identified for Bio 100 be this program  Sign Language - OPTIONAL	t) 1 - Anatomy & 1 to demonstrate
SENIOR YEAR	Communications (competencies target prepa place into English 111)  Analytical Algebra IV (Math 104) (competen work preparing students to place into I Social Studies (World Culture/Global Problem Chemistry (competencies identified for Chem Sign Language - OPTIONAL	ncy based course Math 148) ns)
COMMUNICA	ΓΙΟΝS LITERACY	
Effective Effective Effective	Reading Skills Speaking and Presentation Skills Writing Skills Listening Skills Viewing/Graphic/Observation Skills	1 2 4 5 5
MATHEMATIC	cs	
Data Ar Technic	ry s and Number Relations nalysis and Probability al Algebra al Trigonometry	6 10 12 13 13
SCIENCE LIT	ERACY	
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#### **VOCATIONAL TECHNICAL COMPETENCIES:**

#### **COMMON CORE**

Core competencies will be required of all students.

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Assessment:	48
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Insurance	58
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Medical Law and Ethics	62
Quality Assurance	65
Hazard Management	66
Infection Control	68
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Assessment:	75
Community First Aid and Safety	76
Assessment:	77
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Assessment:	98

#### **ELECTIVES**

All students will select three (3) areas of concentration plus one (1) quarter of independent study with a career focus; participate in a mentorship/internship at a worksite; or enroll in related post-secondary technical coursework.

Diagnostic Procedures	99
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Human Development	148
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#### **KEY TO LEVELING:**

10 - by end of grade 10	10 -	by	end	of	grade	10
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- 12 by end of grade 12
- AD by end of the Associate Degree
- BD by end of Bachelor Degree
- LL lifelong learning necessary due to technological change
- WS on-job-training that occurs at an actual worksite
- I introduce
- R reinforce or add depth (after introducing or mastery)
- M master



#### **COMMUNICATIONS LITERACY**

(Eng 100)

#### Effective Reading Skills

1.01.01.00	Differentiate between fact, opinion, and inference I-11, R-11, M-12
1.01.03.00	Recognize the intent and use of propaganda I-11, R-12
1.01.04.00	Identify and summarize ideas, information, and events that are explicitly stated in written material I-11, R-11, M-12
1.01.05.00	Explain the sequence of time, places, events, and ideas R-11, M-11
1.01.06.00	Identify and explain the main and subordinate ideas (stated or implied) in a written work I-11, R-12
1.01.06.01	Differentiate between details that support or do not support main ideas in a written work
1.01.08.00	Find, understand, and apply information from a variety of sources (books, manuals, newspapers, periodicals, directories, referenceworks, computer printouts, and electronic sources) I-11, R-12, LL
1.01.09.00	Use the features of books and reference materials, such as table of contents, preface, introduction, titles and subtitles, index, glossary, appendix, and bibliography R-11, M-11
1.01.10.00	Define and use unfamiliar words and specialized vocabulary (including abbreviations, acronyms, concepts, and jargon) by using structural analysis, decoding, contextual cues, dictionaries, and computers I-11, R-11, LL
1.01.11.00	Read and understand short notes, memos, letters, and forms R-11, M-12
1.01.12.00	Read and follow complex directions R-11/12



Communications

Determine the author's purpose 1.01.13.00 I-11, R-12 Read, evaluate, and respond critically to various literature forms, 1.01.14.00 genres, and printed medias I-11, R-12 Recognize and interpret organizational patterns of writing (e.g., cause 1.01.15.00 and effect, comparison and contrast, and simple listing) I-11, R-12, M-12 Identify the structural elements of literature (e.g., plot, theme, 1.01.16.00 character, mood, setting, and point of view) I-11, R-12, M-12 Identify literary devices (e.g., metaphor, foreshadowing, flashback, 1.01.17.00 allusion, satire, and irony) I-11, R-12, M-12 Take accurate notes from written sources 1.01.19.00 I-11, R-11/12, M-12 Recognize, analyze, and discuss the rhetorical strategies and writing 1.01.20.00 techniques used in various student and professional writings I-11, R-12 Summarize or paraphrase a written selection to confirm one's own 1.01.21.00 understanding of what was read I-11, R-11/12, M-12 Understand and use appropriate techniques for taking different types 1.01.22.00 of tests I-11, R-11/12, M-12

#### Effective Speaking and Presentation Skills

I-11, R-12

1.02.02.00 Participate critically and constructively in the exchange of ideas, particularly during class discussions and conferences with individuals R-11, R-12

Give oral directions and clear explanations



1.02.01.00

Communications	
1.02.03.00	Demonstrate correct usage of vocabulary R-11, R-12
1.02.05.00	Speak effectively using non-verbal communication such as eye contact, posture, and gestures I-11, R-11/12, M-12
1.02.06.00	Select topics suitable to audience, situation, and purpose I-11, R-11/12, M-12
1.02.08.00	Give formal and informal talks and speeches I-11, R-11/12
1.02.08.01	Explain and demonstrate the basic elements of public speaking
1.02.08.02	Present speeches using an extemporaneous delivery style, with minimal use of note cards or text, maximum eye contact, appropriate voice intonations and body language, and minimal verbal mannerisms
1.02.09.00	Demonstrate the differences between informing and persuading and use the appropriate techniques of content and delivery for each purpose I-11, R-12
1.02.09.01	Present an informative speech by limiting the scope of the topic and selecting a workable pattern of organization with an effective beginning and ending
1.02.09.02	Present a persuasive speech that will demonstrate the student's awareness of and sensitivity to the audience through the use of appropriate language and audience data
1.02.10.00	Use visual media I-11, R-11/12
1.02.11.00	Demonstrate proper telephone etiquette I-11, R-11/12, M-12



#### Effective Writing Skills

1.03.01.00	Demonstrate ability to use different forms of writing (e.g., literary response, business and technical communicative modes, personal responses, journals, research and recording) I-11, R-11/12, M-12
1.03.01.01	Demonstrate understanding of good letter writing principles
1.03.02.00	Demonstrate appropriate selection of mode, purpose, audience, point of view, and organization of information in written assignments I-11/12, R-11/12
1.03.02.01	Produce a completed narrative essay
1.03.02.02	Produce a completed descriptive/observational essay
1.03.02.03	Produce a completed informational paper
1.03.02.04	Produce a completed persuasive essay
1.03.03.00	Demonstrate proficiency in word processing, graphics, and/or desktop publishing aids for writing I-11, R-11/12, LL
1.03.04.00	Apply writing process techniques: 1) Prewriting 2) Drafting 3) Revising 4) Editing/proofreading 5) Publishing I-11, R-11/12, M-12
1.03.04.01	Use journal writing as a pre-writing and learning tool
1.03.04.02	Revise and accurately edit both their own and other's written work
1.03.07.00	Create written summaries of information I-11, R-11/12, M-12
1.03.08.00	Use appropriate techniques for documentation of sources I-11, R-11/12, M-12



#### Effective Listening Skills

Follow spoken directions 1.04.01.00 I-11, R-11/12 Distinguish between fact and opinion 1.04.02.00 I-11, R-11/12, M-12 Make inferences and draw conclusions from verbal and non-verbal 1.04.03.00 messages I-11, R-11/12 Identify and comprehend the main and subordinate ideas in lecture 1.04.04.00 and discussions, questions to clarify information heard, and report accurately what others have said I-11, R-11/12 Restate or paraphrase a conversation to confirm one's own 1.04.05.00 understanding of what was said I-11, R-11/12, M-12 Take accurate notes which summarize material presented from spoken 1.04.06.00 conversations, including telephone messages I-11, R-11/12, M-12 Critique speeches and other verbal presentations 1.04.08.00 I-11, R-11/12

#### Critical Viewing/Graphic/Observation Skills

1.05.01.00

Read and understand graphs, charts, and tables to obtain factual information
I-11, R-11/12, M-12

1.05.02.00

Produce and utilize effective communication skills in the development of graphs, tables, and charts to communicate ideas
I-11, R-11/12, M-12

1.05.03.00

Critically view historical or contemporary events, via TV or video tape, and make appropriate observations
I-11, R-11/12

Communicate through use of video tape and computer presentations
I-12



# MATHEMATICS (Math 104)

<u>Algebra</u>

3.01.01.00	Solve linear equations I-10, R-11/12, M-11
3.01.01.01	Combine like terms
3.01.01.02	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
3.01.01.03	Solve equations in one variable utilizing one operation
3.01.01.04	Solve equations in one variable utilizing two or more operations
3.01.01.05	Describe and use the logic of equivalence in working with equations, inequalities, and functions
3.01.01.06	Identify variables, constants, terms, expressions, and coefficients
3.01.01.07	Define absolute value
3.01.01.08	Evaluate algebraic expressions
3.01.01.09	Solve the literal equation or formula for a specified variable
3.01.01.10	Recognize the properties of equalities
3.01.01.11	Solve a 2x2 system of linear equations by elimination
3.01.01.12	Solve a 2x2 system of linear equations by substitution
3.01.01.13	Apply the rules for solving linear equations in one variable
3.01.01.14	Use formulas
3.01.01.15	Use handheld graphic calculators to solve linear equations and graph simple functions
3.01.01.16	Solve linear equations in one variable containing an absolute value symbol



NA	
Mathematics 3.01.02.00	Use properties of exponents I-11, R-12, M-12
3.01.02.01	Define exponent
3.01.02.02	Compare and compute using scientific notation
3.01.02.03	Determine values for the square root of any natural number
3.01.02.04	Determine the principal square root and recognize square roots of negatives as being non-real
3.01.02.05	Divide terms having factors with exponents
3.01.02.06	Multiply and divide polynomial expressions
3.01.02.07	Operate with radicals and leave the result in simplified form
3.01.02.08	Apply the properties of exponents to simplify polynomial expressions
3.01.02.09	Multiply terms having factors with exponents
3.01.02.10	Solve radical equations
3.01.03.00	Factor a polynomial of two or more terms I-10, R-11/12, M-11
3.01.03.01	Apply the distributive law in removing common factors
3.01.03.02	Factor difference of two squares
3.01.03.03	Factor quadratic trinomials
3.01.04.00	Solve linear inequalities and show the solution on a number line I-11, M-11, R-12
3.01.04.01	Combine like terms
3.01.04.02	Use the Substitution Property to evaluate expressions and formulas
3.01.04.03	Evaluate algebraic expressions
3.01.04.04	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions



Mathematics	
3.01.04.05	Identify variables, constants, terms, expressions, and coefficients
3.01.04.06	Solve equations in one variable utilizing two or more operations
3.01.04.07	Describe and use the logic of equivalence in working with equations, inequalities, and functions
3.01.04.08	Solve a linear inequality in one variable using two or more operations
3.01.04.09	Define absolute value
3.01.04.10	Solve problems involving statements of inequality
3.01.04.11	Use interval notation to describe inequalities on a number line
3.01.04.12	Define and describe the union and intersection of intervals
3.01.04.13	Graph inequalities in two variables
3.01.05.00	Recognize, relate, and use the equivalent ideas of zeros of a function, roots of an equation, and solutions of an equation in terms of graphical and symbolic representations I-11, R-12, M-12
3.01.05.01	Apply the distributive law in removing common factors
3.01.05.02	Factor the difference of two squares
3.01.05.03	Factor quadratic trinomials
3.01.05.04	Combine like terms
3.01.05.05	Use the Distributive Property to remove grouping symbols and the Addition/Subtraction Property to combine like terms to simplify expressions
3.01.05.06	Solve equation in one variable utilizing one operation
3.01.05.07	Solve equations in one variable utilizing two or more operations
3.01.05.08	Describe and use the logic of equivalence in working with equations, inequalities, and functions
3.01.05.09	Identify variables, constants, terms, expressions, and coefficients ~50



Mathematics	
3.01.05.10	Explore and describe characterizing features of functions
3.01.05.11	Find X and Y intercepts of a line
3.01.05.12	Decide whether or not a relation is a function. Use function notation. Find domains and ranges
3.01.05.13	Use set notation to describe and discuss domain and range of a function
3.01.05.14	Factor perfect square trinomials
3.01.06.00	Graph equations I-10, R-11/12, M-12
3.01.06.01	Develop graphical techniques of solution for problem situations involving functions
3.01.06.02	Explore and describe characterizing features of functions
3.01.06.03	Describe problem situations by using and relating numerical, symbolic, and graphical representations
3.01.06.04	Use the language and notation of functions in symbolic and graphing settings
3.01.06.05	Find X and Y intercepts of a line
3.01.06.06	Write equations for a line
3.01.06.07	Use a graphing calculator or computer to generate the graph of a function
3.01.06.08	Graph a linear equation using the slope-intercept method
3.01.06.09	Translate among tables, algebraic expressions, and graphs of functions
3.01.06.10	Estimate shape of graphs of various functions and algebraic expressions
3.01.06.11	Use handheld graphic calculators to solve linear equations and graph simple functions
3.01.06.12	Graph basic functions using the Cartesian coordinate system



Mathematics	
3.01.06.13	Derive the equation of a line given two points of the line, one point and the slope, or slope and Y intercept
3.01.07.00	Demonstrate the ability to translate statements and equations from written to algebraic form and algebraic to written form I-10,, R-11/12, M-11
3.01.08.00	Determine slope, midpoint, and distance I-11, M-11, R-12
3.01.08.01	Solve problems related to sets of points on a Cartesian coordinate system
3.01.08.02	Calculate the slope of a line using the coordinates of two points of the line or a graph of the line
3.01.09.00	Model real-world phenomena with polynomial and exponential functions I-12, M-12
3.01.09.01	Use curve fitting to predict from data
3.01.09.02	Graph exponential functions which model real world statistics (e.g., population growth, radioactive decay)
Geometry	
3.02.01.00	Find perimeters, surface areas and volumes of geometric figures I-10, R-11, M-11
3.02.01.01	Recognize and classify two-and three-dimensional figures (e.g., circles, triangles, rectangles, cylinders, prism)
3.02.01.02	Create and interpret drawings of three-dimensional objects
3.02.01.03	Classify, label, and describe polygons and solids
3.02.01.05	Use handheld graphic calculators to solve area and volume problems
3.02.01.06	Given the dimensions of various geometric shapes common to the technological industries, determine areas and volumes in English and metric units



Mathematics	•
3.02.01.07	Estimate the area of irregular plane figures
3.02.01.09	Convert between radians and degrees
3.02.03.00	Recognize, classify, and use properties of lines and angles I-10, R-11/12, M-11
3.02.03.01	Demonstrate an understanding of angles and parallel and perpendicular lines
3.02.03.02	Define terms related to angles
3.02.03.04	Demonstrate an understanding of special angles
3.02.03.05	Understand the various units of measure of angles
3.02.03.06	Identify points, lines, and planes
3.02.03.07	Use the concept of betweeness
3.02.03.08	Measure angles correctly
3.02.03.09	Convert between radians and degrees
3.02.04.00	Describe and apply the properties of similar and/or congruent figures I-11, M-11, R-12
3.02.04.01	Be able to make scale drawings
3.02.05.00	Solve right triangle problems I-11, R-12, M-12
3.02.05.01	Apply the Pythagorean Theorem
3.02.05.02	Identify basic functions of sine, cosine and tangent
3.02.05.03	Compute and solve problems using basic trigonometric functions
3.02.06.00	Demonstrate inductive and deductive reasoning through application to various subject areas I-10, R-11/12, LL
3.02.06.01	Demonstrate an understanding of and ability to use proof



### Numbers and Number Relations

3.03.01.00	Estimate answers, compute, and solve problems involving real numbers M-10, R-11/12
3.03.01.01	Round off decimals to one or more places
3.03.01.02	Round and/or truncate numbers to designated place value
3.03.01.03	Round off single and multiple digit whole numbers
3.03.01.04	Estimate measurements
3.03.01.05	Use mental computation when computer and calculator are inappropriate
3.03.01.06	Find the least common denominator of two fractions
3.03.02.00	Compare and contrast the real number system, the rational number system, and the whole number system I-12, M-12
3.03.03.00	Determine if a solution to a mathematical problem is reasonable (estimate) I-10, R-11/12, LL
3.03.04.00	Select and compute using appropriate units of measure I-10, R-11/12, M-12
3.03.04.01	Convert, compare, and compute with common units of measurement within and/or across measurement systems
3.03.04.02	Use and convert between measurements in the Apothecaries' System of Measurement
3.03.04.03	Use the correct notations from the Apothecaries' System of Measurement



#### Mathematics

#### Data Analysis and Probability

3.04.01.00	Collect and organize data into tables, charts, and graphs I-10, R-11/12, M-11
3.04.01.01	Take a random sample from a population
3.04.03.00	Understand and apply measures of central tendency, variability, and correlation I-10, R-11/12, M-12
3.04.03.01	Compute and interpret means (averages)
3.04.03.02	Compute and interpret median and/or mode
3.04.03.03	Understand what a normal distribution is
3.04.03.04	Understand what a uniform distribution is

#### Technical Algebra

3.05.01.00	Evaluate and graph functions using rectangular coordinates I-10, R-11/12, M-11
3.05.01.01	Graph inequalities in two variables
3.05.02.00	Solve systems of linear equations and inequalities using matrices, graphs, and algebraic methods I-11, R-12, M-12
3.05.02.01	Solve systems of linear equations with up to 3 variables
3.05.02.02	Solve a 2x2 system of linear equations using matrices
3.05.03.00	Understand the complex number system and exhibit facility with its operation I-12
3.05.03.01	Solve problems having complex solutions
3.05.03.02	Examine complex numbers as zeros of a function



Mathematics	
3.05.03.08	Add, subtract, multiply and divide complex numbers in rectangular form
3.05.04.00	Analyze exponential functions I-12
3.05.04.02	Do calculations involving exponential expressions and functions
3.05.04.04	Graph exponential functions
3.05.04.06	Use graphing calculators to generate tables to plot exponential curves
3.05.05.00	Simplify and solve quadratic equations I-11, R-12, M-12
3.05.05.01	Simplify algebraic expressions, multiply and divide polynomials, and solve quadratic equations
3.05.05.02	Solve a quadratic equation by factoring, by completing the square, and by using the quadratic formula
3.05.05.03	Calculate the discriminant of a quadratic equation
3.05.05.04	Put a quadratic equation in standard form and identify a, b, and c
3.05.05.05	Draw conclusions about the solutions of a quadratic equation based upon the value of the discriminant
3.05.05.06	Use a handheld graphic calculator to find the real solutions of a quadratic function to within stated limits of accuracy
3.05.06.00	Analyze rational functions I-11, R-12, M-12
3.05.06.01	Simplify rational expressions
3.05.06.02	Find the least common denominator of two rational expressions
3.05.06.03	Add, subtract, multiply and divide rational expressions
3.05.06.04	Solve rational equations
3.05.06.05	Identify and describe domain and range of rational functions



#### Mathematics

3.05.06.06	Define asymptote
3.05.06.07	Identify and describe the asymptotes of a rational function and recognize their significance
3.05.06.08	Graph rational functions using a handheld graphic calculator
3.05.06.09	Use a handheld graphic calculator to find any intercepts of a rational function to within stated limits of accuracy

#### **Technical Trigonometry**

3.06.02.00	Recognize and identify graphs of the trigonometric functions I-12, M-12
3.06.02.01	Recognize and graph basic trig curves



#### SCIENCE LITERACY

Chemistry (Chem 100)	
4.01.01.00	Explore atomic theory and present findings using various representational formats. I-11, R-12, M-AD
4.01.01.01	Describe a mechanism of bond formation and identify the type of chemical bond formed as ionic, covalent, or metallic
4.01.01.02	Relate the concept of periodicity to atomic properties and the periodic table of elements
4.01.01.03	Describe charge and ionic compounds in the context of electrochemical theories
4.01.01.04	Recognize that the atomic model is only a model and, like any model, is subject to change
4.01.01.05	State an atomic theory which includes atomic structure, components and their properties, interactions (electron/nuclear) and theory models
4.01.01.06	Demonstrate knowledge of chemical symbolism which will include symbols, formulas, and equations
4.01.01.07	Describe characteristics of ionic compounds
4.01.01.08	Describe characteristics of covalent compounds
4.01.01.09	Use a periodic table to predict the type of bonding which should occur between elements
4.01.01.10	Recognize and identify chemical symbols
4.01.01.11	Identify atomic numbers, atomic mass and general atomic structure based upon the periodic table
4.01.01.12	Prepare orbital notation for elements from the periodic table
4.01.01.13	Identify and explain phases of matter
4.01.02.00	Perform investigations that require observations over varying periods of time concerning the interrelationship of matter and energy I-11, R-12, M-AD



Science Literacy	
4.01.02.01	State a scheme of matter which includes elements, compounds, and mixtures
4.01.02.02	Relate a chemical equation to the concept of chemical change
4.01.02.03	Classify matter according to properties and composition
4.01.02.04	Predict the properties of matter based on data provided in pictures, drawings, charts, graphs, tables, mathematical expressions, and scientific literature
4.01.02.05	Describe the conservation laws and correctly use the standard units for these laws in relation to conservation of mass/energy and conservation of charge
4.01.02.06	Describe properties of carbon and organic molecules
4.01.02.07	State the laws of chemical combinations (conservation of mass, definite composition, multiple proportions)
4.01.02.08	List assumptions of the kinetic theory of matter
4.01.02.10	Manipulate data in problem solving, including: mole problems, concentration problems, gas law problems, atomic/molecular structure problems and equation balancing
4.01.02.11	Discuss the concept of mole
4.01.02.12	State the properties of gases and the laws that apply to gases
4.01.02.13	Identify applications of Avogadro's hypothesis such as Avogadro's number, molar volume, and gram molecular weight/molar mass
4.01.02.14	Use the kinetic molecular theory to explain states of matter, rates of reaction, and chemical equilibrium
4.01.02.15	Manipulate stoichiometric relationships
4.01.02.16	Correctly write formulas and name chemical compounds
4.01.02.17	Properly balance basic chemical equations
4.01.02.18	Predict oxidation members from the periodic table and compounds



Science Literacy	
4.01.02.19	Use electronegativity to predict reactions
4.01.03.00	Demonstrate basic chemistry laboratory techniques and procedures to include equipment and safety precautions I-11, R-12, M-12
4.01.03.01	Identify and use basic laboratory equipment
4.01.03.02	Demonstrate a basic ability to measure liquids and solids in the laboratory
4.01.03.03	Recognize basic safety techniques for chemistry laboratory
Biology/Anatomy/P (Bio 100, Bio 101)	<u>Physiology</u>
4.02.01.00	Using models and explorations, examine cellular components and their relationships I-11, R-11, M-11
4.02.01.01	Describe the cell theory; structure and function
4.02.01.02	Describe the role of nucleic acids in cell functions and heredity
4.02.01.03	Describe the events of mitosis and meiosis
4.02.01.05	List causes and effects of gene mutations and chromosomal aberrations
4.02.01.06	Describe current advances in genetic engineering and possible applications in agriculture and medicine
4.02.02.00	Recognizing and contrasting biological characteristics, derive a scheme to classify living organisms I-11, R-11, M-11
4.02.02.01	List characteristics of living organisms
4.02.02.02	Classify common organisms by observable characteristics
4.02.02.03	Describe how living organisms are classified
4.02.02.04	List characteristics of organisms in each kingdom
4.02.02.05	Explain the difference between viruses and bacteria



Science Literacy	
4.02.03.00	Formulate and understanding of the relationship about organisms, their physical surroundings and their change processes i-10, R-11, M-11
4.02.03.01	Describe the interrelationship of an organism with its environment, including: pollution, populations, community, conservation, habitat, and ecosystem
4.02.03.02	Define natural selection and list evidence for its existence
4.02.03.03	Discuss the development of Darwin's theory of evolution
4.02.03.04	Discuss hypotheses of the origin of life
4.02.03.06	Explain and present examples of the importance of water to sustain life in terms of available water sources, water quality, and uses and quantification
4.02.03.07	Explain interrelationship of wastewater collection, treatment, and public health in terms of organic and inorganic pollutant concentrations and pathogenic organisms
4.02.03.08	Describe how human activities interfere with biological diversity
4.02.04.00	Using an understanding of life processes, formulate explanations of the influences and the effects of other organisms on the living condition I-10, R-11, M-11
4.02.04.01	Explain the relationship between microorganisms and disease
4.02.04.02	Describe the following life processes: digestion, transpiration, respiration, circulation, reproduction, locomotion, excretion, sensory, regulation by endocrine glands, metabolism, and photosynthesis
4.02.04.03	Distinguish between myths and realities of the HIV virus and AIDS
4.02.04.04	Explain the relationship between anatomical structure and function
4.02.04.05	Identify structures in human physiology



Science Literacy Recognizing the organization of living organisms 4.02.05.00 I-10, R-11, M-11 Differentiate science from nonscience by listing characteristics of 4.02.05.01 science Compare the characteristics of science to beliefs, philosophy, 4.02.05.02 superstition, costumes, and religion Define biology 4.02.05.03 Discuss the scientific method 4.02.05.04 List the levels of organization from atom, macromolecule, cell, tissue, 4.02.05.05 organ, organ system, organism, species, genus Identify cellular components and their relationships 4.02.06.00 I-10, R-11, M-11 Differentiate an autotroph from a heterotroph 4.02.06.01 Differentiate a prokaryote form a eukaryote 4.02.06.02 Differentiate a cell membrane from a cell wall 4.02.06.03 Explain the current theory of cell membrane structure-the fluid mosaic 4.02.06.04 model Differentiate between passive transport and active transport 4.02.06.05 Discuss the processes of diffusion, osmosis, active transport, facilitated 4.02.06.06 diffusion, exocytosis, and endocytosis Identify a specific function of the nucleus, nucleolus, mitochondria, 4.02.06.07 ribosomes, endoplasmic reticulum, golgi body, lysosome, centrioles, cilia, microtubules, and vacuole Identify the elements which compose the majority of living matter -4.02.06.08 C,H,N,O,P,S Differentiate an atom from an ion 4.02.06.09 List the chemical symbols for the following compounds - water, carbon 4.02.06.10 dioxide, ammonia, glycerol, fatty acid, glucose, and an amino acid



Science Literacy	
4.02.06.11	Differentiate water soluble compounds from lipid soluble compounds and give examples
4.02.06.12	Define the terms monomer and polymer
4.02.06.13	Name the component molecules of maltose, starch, protein and triglyceride
4.02.06.14	List the component molecules of a nucleotide
4.02.06.15	Compare the advantages of unicellularity versus multicellularity
4.02.06.16	State that DNA is common to all living organisms on earth
4.02.06.17	Compare the commonality of enzymes
4.02.07.00	Formulate an understanding of the physical structures and chemical processes occurring within the cell I-10, R-11, M-11
4.02.07.01	Differentiate photosynthesis from chemosynthesis
4.02.07.02	Summarize briefly the process of photosynthesis by correlating the cell organelles involved, the starting energy, the end products of carbon fixation, and its significance
4.02.07.03	Define digestion
4.02.07.04	Differentiate aerobic from anaerobic metabolism
4.02.07.05	Summarize glycolysis by correlating the starting compound and end products
4.02.07.06	Differentiate the 2 carbon end products of anaerobic glycolysis in plants and animals
4.02.07.07	Summarize cell respiration by correlating starting compounds and end products of the bridge step, krebs cycle, and the electron transport systems
4.02.07.08	Compare the amounts of ATP formed in aerobic metabolism versus anaerobic metabolism
4.02.07.09	List several functions that require ATP



Science Literacy	
4.02.07.10	Differentiate the 4 levels of organization of a protein molecule
4.02.07.11	Correlate the roles of proteins in cells-enzymes, structural, antibodies, receptor sites, pigments
4.02.07.12	Analyze the process of protein synthesis by discussing complementary base pairing, transcription, mRNA, tRNA, ribosomes, codons, anticodons, translation, and significance of errors
4.02.07.13	Analyze the cell cycle by discussing Gl, S, G2, Mitosis, and cytokinesis
4.02.07.14	Discuss the process of mitosis and correlate events in each phase
4.02.07.15	Differentiate plant and animal cytokinesis
4.02.07.16	Discuss meiosis and correlate events in each phase
4.02.07.17	Compare and contrast the processes of human spermatogenesis and cogenesis
4.02.07.18	Use a Punnett square to solve monohybrid and dihybrid cross problems
4.02.07.19	Define a mutation and discuss its significance
4.02.07.20	Describe briefly examples of recombinant DNA technology
4.02.08.00	Classify organisms by observable characteristics I-10, R-11, M-11
4.02.09.00	Demonstrate knowledge of the general function of the human body I-11, R-12, M-AD, R-BD, LL
4.02.09.01	Define the terms Anatomy, Physiology and Pathology
4.02.09.02	Describe the organization of the body from cells to the whole organism
4.02.09.03	List ten body systems and give the general function of each
4.02.09.04	Define metabolism and name the two phases of metabolism
4.02.09.05	Briefly explain the role of ATP in the body
4.02.09.06	Define homeostasis and negative feedback



Science Literacy	
4.02.09.07	List and define the main directional terms for the body
4.02.09.08	List and define the three planes of division of the body
4.02.09.09	Name the subdivisions of the dorsal and ventral cavities
4.02.09.10	Name the basic metric units of length, weight, and volume
4.02.09.11	Define the metric prefixes - kilo-, cent-, milli-, and micro-
4.02.10.00	Demonstrate knowledge of chemistry, matter, and life I-11, R-12, M-AD, R-BD, LL
4.02.10.01	Identify elements on the periodic table
4.02.10.02	Describe the structure of an atom
4.02.10.03	Differentiate between atoms and molecules
4.02.10.04	Define the atomic number of an atom
4.02.10.05	Differentiate among elements, compounds, mixtures, and give examples of each
4.02.10.06	Explain why water is so important to the body
4.02.10.07	Define mixture; list the three types of mixtures and give two examples of each
4.02.10.08	Differentiate between ionic and covalent bonds
4.02.10.09	Define the terms acid, base and salt
4.02.10.10	Explain how the numbers on the pH scale relate to acidity and alkalinity
4.02.11.00	Demonstrate knowledge of cells and their functions I-11, R-12, M-AD, R-BD, LL
4.02.11.01	List three types of microscopes used to study cells
4.02.11.02	Describe the function and composition of cytoplasm
4.02.11.03	Name and describe the main organelles in the cell



Science Literacy	
4.02.11.04	Give the composition, location, and function of DNA
4.02.11.05	Give the location and function of RNA
4.02.11.06	Explain briefly how cells make proteins
4.02.11.07	Describe briefly the steps of cell division
4.02.11.08	List four methods by which substances enter and leave cells
4.02.11.09	Explain diffusion, filtration and osmosis
4.02.11.10	Define CANCER
4.02.11.11	List several risk factors of CANCER
4.02.12.00	Demonstrate knowledge of tissues, glands and membranes I-11, M-AD, R-BD
4.02.12.01	Name the four main groups of tissues and give the location and general characteristics of each
4.02.12.02	Describe the difference between exocrine and endocrine glands
4.02.12.03	Give examples of soft, hard, and liquid connective tissues
4.02.12.04	Name four types of membranes and give location and functions of each
4.02.12.05	Describe two types of epithelial membranes
4.02.12.06	Explain the difference between malignant tumors and benign tumors
4.02.12.07	List four methods of diagnosing cancer
4.02.12.08	List four methods of treating cancer
4.02.13.00	Demonstrate knowledge of disease and disease producing organisms I-11, M-AD, R-BD
4.02.13.01	Define disease and list seven causes of disease
4.02.13.02	List eight predisposing causes of disease



Science Literacy	
4.02.13.03	Differentiate between acute and chronic disease
4.02.13.04	List four types of organisms studied in microbiology and give characteristics of each
4.02.13.05	List some disease caused by each type of microorganism
4.02.13.06	Describe the three types of bacteria according to shape
4.02.13.07	List several diseases in humans caused by worms
4.02.13.08	Describe how infections may be spread
4.02.13.09	Describe several public health measures taken to prevent spread of disease
4.02.13.10	Differentiate sterilization, disinfection, and antisepsis
4.02.13.11	Describe universal precautions
4.02.13.12	Define Chemotherapy
4.02.13.13	Describe several methods used to identify microorganisms in the laboratory
4.02.14.00	Demonstrate knowledge of the integumentary system I-11, M-AD, R-BD
4.02.14.01	Describe the layers of the Integumentary System
4.02.14.02	Describe the location and function of the appendages of the skin
4.02.14.03	List the main functions of the skin
4.02.14.04	Summarize the information to be gained by observation of the skin
4.02.14.05	List the main diseases of the skin
4.02.15.00	Demonstrate knowledge of the skeletal system I-11, M-AD, R-BD
4.02.15.01	Name the three different types of bone cells and describe the functions of each



Science Literacy	
4.02.15.02	Differentiate between compact bone and spongy bone
4.02.15.03	Describe the structure of a long bone
4.02.15.04	Explain how long bones grow
4.02.15.05	Differentiate between red and yellow marrow
4.02.15.06	List the bones of the axial skeleton
4.02.15.07	List the bones of the appendicular skeleton
4.02.15.08	Describe five bone disorders
4.02.15.09	Describe three abnormal curves of the spine
4.02.15.10	List and define six types of fractures
4.02.15.11	Describe the three types of joints
4.02.15.12	Describe the structure of a synovial joint
4.02.15.13	Define six types of movement that occur at a synovial joint
4.02.15.14	Describe four types of arthritis
4.02.16.00	Demonstrate knowledge of the muscular system I-11, R-12, M-AD, R-BD, LL
4.02.16.01	List the characteristics of skeletal muscles
4.02.16.02	Describe how muscles contract
4.02.16.03	List the substances needed in muscle contraction and describe the function of each
4.02.16.04	Define oxygen debt
4.02.16.05	Compare isotonic and isometric contractions
4.02.16.06	Explain how muscles work in pairs to produce movement
4.02.16.07	Name some major muscles in each muscle group



Science Literacy	
4.02.16.08	Describe how muscles change with age
4.02.16.09	List the major muscular disorders
4.02.17.00	Demonstrate knowledge of the nervous system I-11, R-12, M-AD, R-BD, LL
4.02.17.01	Describe the organization of the nervous system according to structure and function
4.02.17.02	Explain the transmission of a nerve impulse
4.02.17.03	Define synapse and describe the role of neurotransmitters at the synapse
4.02.17.04	Name the three types of nerves and explain how they differ from each other
4.02.17.05	Describe the spinal cord and name several functions
4.02.17.06	Describe and name the spinal nerves
4.02.17.07	Name and describe the main parts of the reflex arc and cite examples of reflexes
4.02.17.08	Compare the location and functions of the two parts of autonomic nervous system
4.02.18.00	Demonstrate knowledge of the sensory system I-11, R-12, M-AD, R-BD, LL
4.02.18.01	Describe the function of the sensory system
4.02.18.02	List the major senses
4.02.18.03	Describe the structure of the eye
4.02.18.04	Define refraction and list the refractive media of the eye
4.02.18.05	List several disorders of the eye
4.02.18.06	Describe the three divisions of the ear
4.02.18.07	Describe the receptors for heating and equilibrium



Science Literacy	
4.02.18.08	Define general sense and give five examples of such senses
4.02.19.00	Demonstrate knowledge of the endocrine system I-11, R-12, M-AD, R-BD, LL
4.02.19.01	Compare the effects of the nervous system and the endocrine system in controlling the body
4.02.19.02	Explain how hormones are regulated
4.02.19.03	Identify the glands of the endocrine system
4.02.19.04	List the hormones produced by each endocrine gland
4.02.19.05	Describe how the hypothalamus controls the anterior and posterior pituitary
4.02.19.06	Explain how the endocrine system responds to stress
4.02.20.00	Demonstrate knowledge of the blood I-11, R-12, M-AD, R-BD, LL
4.02.20.01	List the functions of the blood
4.02.20.02	List the main ingredients in plasma
4.02.20.03	Name the three types of formed elements in the blood
4.02.20.04	Describe five types of leukemia
4.02.20.05	Describe the formation of the blood cells and give approximate lifespan of each type
4.02.20.06	Cite three steps of hemostasis
4.02.20.07	Describe the steps in blood clotting
4.02.20.08	Define blood type and explain the effect of blood on transfusion
4.02.20.09	List the reasons for transfusions of whole blood and blood components
4.02.20.10	Define anemia
4.02.20.11	Define leukemia



Science Literacy	
4.02.20.12	Describe the tests used to study the blood
4.02.21.00	Demonstrate knowledge of the heart and heart disease I-11, R-12, M-AD, R-BD LL
4.02.21.01	Describe the three layers of the heart
4.02.21.02	Name the four chambers of the heart
4.02.21.03	Name the valves at the entrance and exit of each ventricle
4.02.21.04	Describe blood circulation through the myocardium
4.02.21.05	Name the components of the heart's conduction system
4.02.21.06	Describe the cardiac cycle
4.02.21.07	Explain what produces the two main heart sounds
4.02.21.08	Define several terms that describe different heart rates
4.02.21.09	Describe several common types of heart disease
4.02.21.10	List six areas that might contribute to the prevention of heart disease
4.02.21.11	Describe five instruments used to study the heart
4.02.21.12	Describe the electric activity of the heart
4.02.21.13	Describe three approaches to the treatment of heart diseases
4.02.22.00	Demonstrate knowledge of blood vessels and blood circulation I-11, R-12, M-AD, R-BD, LL
4.02.22.01	Differentiate among the three main types of blood vessels
4.02.22.02	Compare the locations and functions of the pulmonary and systemic circuits
4.02.22.03	Describe the three coats of the blood vessels
4.02.22.04	Name the four sections of the aorta
4.02.22.05	Name the main branches of the aorta



Science Literacy	
4.02.22.06	Define venous sinus
4.02.22.07	Name the main vessels that drain into the superior and inferior vena cava
4.02.22.08	Describe the structure and function of the hepatic portal system
4.02.22.09	Explain how materials are exchanged across the capillary wall
4.02.22.10	Describe the factors that regulate blood flow
4.02.22.11	Define pulse and list factor that affect pulse rate
4.02.22.12	List several factors that affect blood pressure
4.02.22.13	Explain how blood pressure is commonly measured
4.02.22.14	List some disorders that involve the blood vessels
4.02.22.15	List four types of shock
4.02.23.00	Demonstrate knowledge of the lymphatic system I-11, R-12, M-AD, R-BD, LL
4.02.23.01	List the three major functions of the lymphatic system
4.02.23.02	Explain how lymphatic capillaries differ from blood capillaries
4.02.23.03	Name the two main lymphatic ducts and describe the area drained by each
4.02.23.04	List the major structures of the lymphatic system
4.02.23.05	Describe the composition and function of the reticuloendothelial system
4.02.24.00	Demonstrate knowledge of the body defenses, immunity and vaccines I-11, R-12, M-AD, R-BD, LL
4.02.24.01	List the factors that determine the occurrence of infection
4.02.24.02	Differentiate between nonspecific and specific body defenses
4.02.24.03	Describe the inflammatory reaction



Science Literacy	
4.02.24.04	List several types of inborn immunity
4.02.24.05	Differentiate between natural and artificial immunity
4.02.24.06	Differentiate between active and passive immunity
4.02.24.07	Define antigen and antibody
4.02.24.08	Compare T cells and B cells
4.02.24.09	Define the term vaccine
4.02.24.10	Define the term immune serum
4.02.24.11	List several disorders of the immune system
4.02.25.00	Demonstrate knowledge of the respiratory system I-11, R-12, M-AD, R-BD, LL
4.02.25.01	Define respiration and describe the three phases of respiration
4.02.25.02	Name all the structures of the respiratory system
4.02.25.03	Explain the mechanism for pulmonary ventilation
4.02.25.04	List the ways in which oxygen and carbon dioxide are transported in the blood
4.02.25.05	Describe the ways in which respiration is regulated
4.02.25.06	List and define the five symptoms of abnormal respiration
4.02.25.07	Describe four types of respiratory infection
4.02.25.08	Name the diseases involved in chronic obstructive pulmonary disease
4.02.26.00	Demonstrate knowledge of the digestive system I-11, R-12, M-AD, R-BD, LL
4.02.26.01	Name the two main functions of the digestive system
4.02.26.02	Describe the four layers of the digestive tract wall
4.02.26.03	Describe the layers of the peritoneum



Science Literacy	
4.02.26.04	Name and describe the organs of the digestive tract
4.02.26.05	Name and describe the accessory organs
4.02.26.06	List the functions of each organ involved in digestion
4.02.26.07	Explain the role of enzymes in digestion
4.02.26.08	Name the digestion products of fats, protein, and carbohydrates
4.02.26.09	Define absorption
4.02.26.10	Define villi and state how villi function in absorption
4.02.26.11	Describe how bile functions in digestion
4.02.26.12	Name the ducts that carry bile into the digestive tract
4.02.26.13	List the main functions of the liver
4.02.26.14	Explain the use of feedback in regulating digestion
4.02.27.00	Demonstrate knowledge of body fluids I-11, R-12, M-AD, R-BD, LL
<b>4.02.27.00</b> <b>4.02.27.01</b>	
	I-11, R-12, M-AD, R-BD, LL
4.02.27.01	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids
4.02.27.01 4.02.27.02	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids  List four types of extracellular fluids
4.02.27.01 4.02.27.02 4.02.27.03	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids  List four types of extracellular fluids  Name the systems that are involved in water balance
4.02.27.01 4.02.27.02 4.02.27.03 4.02.27.04	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids  List four types of extracellular fluids  Name the systems that are involved in water balance  Define electrolytes and describe their importance
4.02.27.01 4.02.27.02 4.02.27.03 4.02.27.04 4.02.27.05	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids  List four types of extracellular fluids  Name the systems that are involved in water balance  Define electrolytes and describe their importance  Describe three methods for regulating pH of body fluids
4.02.27.01 4.02.27.02 4.02.27.03 4.02.27.04 4.02.27.05 4.02.27.06	I-11, R-12, M-AD, R-BD, LL  Compare intracellular and extracellular fluids  List four types of extracellular fluids  Name the systems that are involved in water balance  Define electrolytes and describe their importance  Describe three methods for regulating pH of body fluids  Describe five disorders involving body fluids



Science Literacy	
4.02.28.02	Describe the parts of the urinary system and name the functions of each
4.02.28.03	Trace the path of a drop of blood as it flows through the kidney
4.02.28.04	Describe the nephron
4.02.28.05	Name the four processes involved in urine formation
4.02.28.06	Identify the role of ADH in urine formation
4.02.28.07	Name two hormones produced by the kidneys
4.02.28.08	List five signs of chronic renal failure
4.02.28.09	Explain the purpose of kidney dialysis
4.02.28.10	Name three normal and six abnormal constituents of urine
4.02.29.00	Demonstrate knowledge of the reproductive system I-11, R-12, M-AD, R-BD, LL
4.02.29.01	Name the male and female gonads and describe the function of each
4.02.29.02	State the purpose of meiosis
4.02.29.03	List the accessory organs of the male and female reproductive tracts and cite the function of each
4.02.29.04	Describe the composition and function of semen
4.02.29.05	Draw and label a spermatozoon
4.02.29.06	List in order the hormones produced during the menstrual cycle and cite the source of each
4.02.29.07	Describe the functions of the main male and female sex hormones
4.02.29.08	Explain how negative feedback regulates reproductive function in both males and females
4.02.29.09	Describe the major disorders of the male and female reproductive tract



Science Literacy	
·	Describe fortilization and early development of the fertilized egg
4.02.29.10	Describe fertilization and early development of the fertilized egg
4.02.29.11	Describe the structure and function of the placenta
4.02.29.12	Describe the four stages of labor
4.02.29.13	Cite the advantages of breast feeding
4.02.29.14	Describe the changes that occur during and after menopause
4.02.29.15	Describe contraception and cite the main methods of contraception currently in use
4.02.30.00	Demonstrate heredity and hereditary diseases I-11, R-12, M-AD, R-BD, LL
4.02.30.01	Describe the mechanism of gene function
4.02.30.02	Explain the difference between dominant recessive genes
4.02.30.03	Describe a carrier of genetic trait
4.02.30.04	Define meiosis
4.02.30.05	Explain how sex is determined in humans
4.02.30.06	Describe what is meant by the term sex linked
4.02.30.07	List several factors that may influence the expression of a gene
4.02.30.08	Define mutation
4.02.30.09	Differentiate among congenital, genetic and hereditary disorders
4.02.30.10	List several factors that may produce genetic disorders
4.02.30.11	Describe several methods used to trait genetic disorders



### SOCIAL/CULTURAL LITERACY

## Growth of Social, Political, and Economic Institutions

5.01.01.00	Describe the role of individuals within their political system, process of voter registration, the election process and responsibility and privileges of citizenship and how law protects individuals M-12
5.01.01.01	Consider the importance of registering to vote and voting in a democratic society
5.01.01.02	Identify the legal responsibilities of citizenship
5.01.01.03	Describe the ways officials can be elected, appointed, or removed from office
5.01.01.04	Know the purpose of and qualifications for voting in Ohio's primary and general elections
5.01.03.00	Examine important historical documents in context with the American experience including socio-political and ideological influences that shaped their design. (NW Ordinance, Declaration of Independence, Bill of Rights, and Constitution) M-12
5.01.03.01	Explain the purpose and contents of the Bill of Rights
5.01.03.02	Demonstrate an understanding of federalism (local, state, national)
5.01.03.03	Identify the main function of each branch (legislative, executive, judicial) at different levels
5.01.03.04	Describe the process for making, amending, or removing laws
5.01.03.05	Identify representative symbols: flag, national anthem, Pledge of Allegiance, Independence Day, etc.
5.01.03.06	Understand and apply the principles of separation of powers and checks and balances
5.01.03.07	Distinguish the constitutional relationship among the several levels of government regarding reserved powers, delegated powers, concurrent powers, elastic clause, and powers denied the government



#### Social/Cultural Literary

5.01.04.00	Describe the political process M-12
5.01.04.01	Understand the role of political parties in a democracy
5.01.04.02	Understand the role of public officials an dhow policy is carried out
5.01.04.03	Describe strengths and weaknesses of the American System
5.01.04.04	Describe how resources are gathered to support the process and policies
5.01.04.05	Understand that lawmaking is influenced through formal and informal processes
5.01.04.06	Explain the relationship of public policy to political processes and interpret policy in light of the formal and informal processes taking place within a constitutional framework
5.01.04.07	Explore the relationship which exists between the formal and informal procedures of government as a means to evaluate the role of the citizen in policy making
5.01.05.00	Compare and contrast political systems I-11, M-12
5.01.05.01	Distinguish characteristics and essential features of representative democracy, monarchy, and dictatorships
5.01.05.02	Identify international governing bodies (e.g., United Nations, League of Nations, World Bank, European Economic Community, Organization of American States, etc.) and their impact
5.01.06.00	Compare the culture, customs, and traditions of different ethnic and minority groups in America M-12
5.01.06.01	Be aware of the diverse social, psychological, political, and economic factors which influence lifestyles
5.01.06.02	Evaluate methods and procedures applied by individuals, groups and social agencies to overcome social and economic barriers



Social/Cultural Literacy	
5.01.06.03	Determine the role of, and conflict between, American values such as order, freedom, equality and individualism as they operate in the American Political System
5.01.06.04	Assess the impact of social class and social structure on economic development in specific countries in the First World and in the Third World
5.01.06.05	Identify factors which have contributed to America's cultural pluralism, including historical, racial, ethnic, religious, and linguistic backgrounds of this nation's people
5.01.06.06	Identify significant features of the 14th Amendment (due process and equal protection of the laws)
5.01.07.00	Know that individuals and societies make choices to satisfy wants with limited resources I-11, M-12
5.01.07.01	Develop an understanding of economic systems
5.01.07.02	Develop an understanding of the structure and functions of the American economy
5.01.07.03	Recognize the uneven distribution of world resources
5.01.07.04	Describe the role of technological growth in economic development and the impact of technology on the physical and human environment
5.01.07.05	Compare the benefits and costs of consuming versus saving
5.01.07.06	Explain the benefits and costs of investing in human and physical capital and describe how adding new capital resources can increase productivity
5.01.07.07	Suggest the impact of savings and credit usage on the economy
5.01.07.08	Identify the functions and characteristics of money and suggest acceptable and unacceptable forms of money
5.01.07.09	Identify types of financial institutions and explore their roles as intermediaries between households and businesses



#### Social/Cultural Literacy

5.01.07.10	Understand the following economic concepts: 1) individuals and households exchange their resources for the income they need to buy goods and services; 2) individuals and businesses use resources to produce goods and services and generate income; 3) markets allocate goods and services; 4) competition affects markets; 5) local, state, and national governments play important roles in a market economy
5.01.07.11	Determine patterns of movement of people, ideas, products, and capital, and identify the linkages that prompt interdependence among people and societies
5.01.07.12	Describe human modifications of the physical environment and consider alternative approaches to dealing with the environment
5.01.07.13	Examine the impact events in one market may have on other markets and the interdependence of markets
5.01.07.14	Identify multinational corporations and assess their role in world economic development and trade
5.01.07.15	Relate scarcity and distribution of resources to current issues
5.01.07.16	Create alternative scenarios pertaining to current issues to determine the impact of personal and social economic decisions on the allocation of resources

### Human Diversity and Historical/Current Issues

5.02.01.00	Describe the causes and effects of selected wars I-11, M-12
5.02.02.00	Describe the diversity of populations encompassing the Civil Rights movement, racism, ethnocentrism, and minority group movements I-11, M-12
5.02.02.01	Recognize diversity among significant individuals
5.02.02.02	Recognize diversity among significant organizations
5.02.02.03	Recognize diversity surrounding immigration
5.02.02.04	Recognize diverse ethnic and minority groups



Social/Cultural Literacy	
5.02.02.05	Recognize major world religions
5.02.02.06	Describe the relationship between diversity and historical development and contributions
5.02.03.00	Describe how an individual interacts with the various societal, economic, and political systems I-11, M-12
5.02.03.01	Be aware of the diverse social, psychological, political and economic factors which influence lifestyles
5.02.03.02	Recognize individuals and societal practices which result in exceptional treatment of people from various backgrounds
5.02.03.03	Identify and define the basic concepts of community and community development, and the role of individuals within their political systems and opportunities for civic involvement
5.02.03.04	Describe and discuss contemporary domestic and international political issues and events, and evaluate the way they impact on self and society
5.02.03.06	Justify proposed solutions to international problems by explaining how the solutions would be acceptable to the parties involved
5.02.03.07	Create alternative scenarios to determine the impact and reaction of regions or nations to proposed solutions to current issues
Analyzing Informa	<u>tion</u>
5.03.01.00	Differentiate between primary and secondary sources of information I-11, M-12
5.03.02.00	Illustrate that information can be influenced by cultural bias or propaganda I-11, M-12
5.03.03.00	Analyze and explain social, cultural and political problems and suggest remedies to those problems I-11, M-12



Social/Cultural Literacy	
5.03.03.01	Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past
5.03.03.02	Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences\
5.03.03.03	Use appropriate resources to research antecedent development to current issues
5.03.03.04	Project the consequences of different decisions based on past experiences
5.03.03.05	Create alternative scenarios pertaining to current issues to determine the impact of proposed solutions on democratic principles
5.03.03.06	Explore the roots of prejudice and identify ways of combating prejudice
5.03.04.00	Compare and contrast culture, customs and traditions of ethnic and minority groups I-11, M-12
5.03.05.00	Analyze social forces the influence family life I-11, M-12
5.03.06.00	Demonstrate the ability to use information that enables citizens to make informed choices I-11, LL
5.03.06.01	Use multiple historical narratives to research the connections between current events and their antecedents
5.03.06.02	Identify, analyze, and synthesize historians' arguments, explanations, or interpretations of historical events/issues
5.03.06.03	Identify, analyze, and synthesize arguments, explanation, or interpretations of antecedent developments to current issues
5.03.06.04	Use appropriate resources to research antecedent developments to current issues
5.03.06.05	Obtain needed historical data from a variety of sources



Social/Cultural Literacy	
5.03.06.06	Demonstrate the ability to use information that enables citizens to make informed choices: analyze sources to obtain information; compare and contrast points of agreement and disagreement among sources; evaluate the reliability of available information; identify and weigh alternative viewpoints
5.03.06.07	Compare points of agreement and disagreement among sources providing information about civic issues
5.03.07.00	Communicate and cooperate with people of different cultural backgrounds I-11, LL
5.03.08.00	Collect and analyze information from charts, graphs, maps, and pictures I-11, M-12
5.03.09.00	Identify and explain how world problems and future trends will impact his or her life I-11, M-12
5.03.10.00	Describe and discuss world patterns of population, geographic land forms, climate regions, and economic activities I-11, M-12
5.03.11.00	Identify opportunities for involvement in civic activities I-11, LL
5.03.11.01	Explain the importance of and decide upon the best methods for citizen participation in the policy process given a particular set of circumstances
5.03.11.02	Participate with others in evaluating public policy and work to achieve consensus on how the policy issues should be addressed
5.03.11.03	Distinguish between voluntary efforts that involve monitoring and influencing public policy and those that do not
5.03.11.04	Understand that the evolution of democratic principles (e.g., civil rights, widening franchise) can occur through civil disobedience
5.03.11.5	Participate in a project designed to serve the community



Hypothesize the influence of the past on the present including both the limitations and the opportunities made possible by decisions in the past I-11, M-12

Consider how different choices in the past could have led to different consequences and project how different choices in the present could lead to different consequences I-11, M-12

Project the consequences of different decisions based on past experiences I-11, M-12



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# COMPUTER LITERACY

10.04.01.00	Demonstrate knowledge of Computer Literacy I for Windows I-9/10, M-11, R-12
10.04.01.01	Explain what a computer is and how it processes data to produce information
10.04.01.02	Identify the four operations of the information processing cycle: input, process, output, and storage
10.04.01.03	Explain how the operations of the information processing cycle are performed by computer hardware and software
10.04.01.04	Describe the elements of an information system: equipment, software, data, personnel, users, and procedures
10.04.01.05	Explain the responsibilities of information system personnel
10.04.01.06	Explain the use of computers in our world
10.04.01.07	Identify the most widely used general microcomputer software applications and their key processing features
10.04.01.08	Describe how each application can help users
10.04.01.09	Explain integrated software and its advantages
10.04.01.10	List and describe the guidelines for purchasing hardware and software packages
10.04.01.11	List and describe the learning aids and support tools that help users to use microcomputer applications
10.04.01.12	Define the types of inputs and outputs and how the computer uses each type
10.04.01.13	Define data and explain the terms used to describe data: field, record, file, database
10.04.01.14	Describe the standard features of keyboards, and explain how to use the cursor control and function keys
10.04.01.15	Explain the types of terminals and how they are used



Computer Literacy	
10.04.01.16	Explain user interfaces and list the features that a good user interface should have
10.04.01.17	Discuss how data entry differs in interactive and batch processing
10.04.01.18	List and explain the systems and procedures associated with data entry
10.04.01.19	Explain the term ergonomics and describe some of the important features of good equipment design
10.04.01.20	Identify the components of the processor unit and describe their use
10.04.01.21	Define a bit and describe how a series of bits in a byte is used to represent characters
10.04.01.22	Discuss how the ASCII and EBCIDIC codes represent characters
10.04.01.23	Discuss the primary factors that affect the speed of the processor unit
10.04.01.24	Describe the characteristics of RAM and ROM memory, and list several other types of memory
10.04.01.25	List the common types of reports that are used for output
10.04.01.26	Describe multimedia
10.04.01.27	Describe the features and classifications of printers
10.04.01.28	Identify and explain the differences of impact and non-impact printers
10.04.01.29	Describe the types of screens available and list common screen features
10.04.01.30	Define auxiliary storage
10.04.01.31	Describe the forms of auxiliary storage used and how special-purpose storage devices are used
10.04.01.32	Explain how data is stored on diskettes, hard disks and tape
10.04.01.33	Explain how data stored on magnetic disks can be protected



Computer Literary	
10.04.01.34	Explain what data management is and why it is needed
10.04.01.35	Describe sequential files, indexed files, and direct (or relative) files
10.04.01.36	Explain the difference between sequential and random retrieval of record from a file
10.04.01.37	Describe the data maintenance procedures for updating data including adding, changing, and deleting
10.04.01.38	Discuss the advantages of a database management system (DBMS)
10.04.01.39	Define and describe the basic components of a communications system
10.04.01.40	Describe the various transmission media and line configurations used for communication channels
10.04.01.41	Identify and explain the communications equipment used in a communications system
10.04.01.42	Describe the functions performed by communications software including how data is transmitted
10.04.01.43	List the major categories of networks and describe the common network configurations
10.04.01.44	Describe how bridges and gateways are used to connect networks
10.04.01.45	Define the term management information systems and explain how information is important to an organization
10.04.01.46	Discuss the different levels in an organization and how the information requirements differ for each level
10.04.01.47	Define the term information system and identify the elements of an information system
10.04.01.48	Describe the different types of information systems and the trend toward integration
10.04.01.49	Explain how personal computers are used in management information systems



Computer Literary	
10.04.01.50	Discuss how electronic devices and applications are used in the automated office
10.04.01.51	Describe the technologies that are developing for the automated factory
10.04.01.52	Discuss the trend toward computer-integrated enterprise
10.04.01.53	Discuss the use of personal computers in the home
10.04.01.54	Describe the methods used in computer-aided instruction (CAI)
10.04.01.55	Explain the guidelines for purchasing personal computers
10.04.01.56	Discuss the social issues relating to computers
10.04.01.57	Define data and information
10.04.01.58	Describe the use and handling of diskettes and hard disks
10.04.01.59	Discuss computer software and explain the difference between application software and system software
10.04.01.60	Describe what a graphic user interface (GUI) is
10.04.01.61	Identify the elements of a window
10.04.01.62	Perform basic mouse operations
10.04.01.63	Perform the following window operations; choose a command from a menu; respond to dialogue boxes; name a file; explain what a directory, subdirectory and path are; open, enlarge and scroll a window; and obtain on-line help while using an application



## **COMMON CORE**

#### Medical Terminology

(Mult 101)

(Mult 101)	
11.01.01.00	Use common medical symbols, abbreviations and selected English, Latin and Greek equivalents I-11, M-11, R-12, LL
11.01.01.01	Identify commonly used medical symbols (e.g. + = acid reaction)
11.01.01.02	Write out full names of commonly used abbreviations (e.g. $Hx = History$ )
11.01.01.03	Spell medical terms correctly
11.01.02.00	Demonstrate knowledge of medical terminology I-11, M-11, R-12, LL
11.01.02.01	Define basic prefixes and suffixes
11.01.02.02	Spell basic prefixes and suffixes
11.01.02.03	Pronounce basic prefixes and suffixes
11.01.02.04	Build medical terms from root elements
11.01.02.05	Identify principal terms relating to the body as a whole
11.01.02.06	Define terms related to the integumentary system
11.01.02.07	Define terms related to the skeletal system
11.01.02.08	Define terms related to the muscular system
11.01.02.09	Define terms related to the nervous system
11.01.02.10	Define terms related to the circulatory/cardiovascular system
11.01.02.11	Define terms related to the lymphatic system



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11.01.02.12	Define terms related to the respiratory system
11.01.02.13	Define terms related to the digestive system
11.01.02.14	Define terms related to the endocrine system
11.01.02.15	Define terms related to the urinary system
11.01.02.16	Define terms related to the reproductive system
11.01.02.17	Define terms related to the senses
11.01.02.18	Define terms related to immunology
11.01.02.19	Define terms related to pathology

Recommended Assessment: Dean Vaughn Medical Test in correlation with the Dean Vaughn Medical Terminology 350 Instructional System.

#### Employability Skills

11.02.01.00	Investigate career options I-11, R-12, LL
11.02.01.01	Determine interests and aptitudes
11.02.01.02	Identify career options
11.02.01.03	Research occupations matching interests and aptitudes
11.02.01.04	Select career(s) that best match(es) interests and aptitudes
11.02.01.05	Identify advantages and disadvantages of career options, including nontraditional careers, hours of work, offshift, weekends, and holidays
11.02.01.06	Assess differences in wages, annual incomes, and job opportunities based on geographical location
11.02.01.07	Develop a career plan



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11.02.02.00	Analyze potential barriers to employment I-11, R-12, LL
11.02.02.01	Identify common barriers to employment
11.02.02.02	Describe strategies to overcome employment barriers
11.02.03.00	Apply decision-making techniques in the workplace I-11, R-12, LL
11.02.03.01	Identify the decision to be made
11.02.03.02	Compare alternatives
11.02.03.03	Determine consequences of each alternative
11.02.03.04	Make decisions based on values and goals
11.02.03.05	Evaluate the decision made
11.02.04.00	Apply problem-solving techniques in the workplace I-11, R-12, LL, WP
11.02.04.01	Diagnose the problem and its causes
11.02.04.02	Identify alternatives and their consequences in relation to the problem
11.02.04.03	Examine multicultural and nonsexist dimensions of problem solving
11.02.04.04	Utilize resources to explore possible solutions to the problem
11.02.04.05	Compare and contrast the advantages and disadvantages
11.02.04.06	Determine appropriate action
11.02.04.07	Evaluate results
11.02.05.00	Evaluate the relationship of self-esteem to work ethic I-11, M-11, R-12
11.02.05.01	Identify special characteristics and abilities in self and others
11.02.05.02	Identify internal and external factors that affect self-esteem



11.02.06.00	Analyze the relationship of personal values and goals to work ethic in and out of the workplace I-11, R-12, LL
11.02.06.01	Distinguish between values and goals
11.02.06.02	Determine the importance of values and goals
11.02.06.03	Evaluate how values affect goals
11.02.06.04	Identify short-term and long-term goals
11.02.06.05	Prioritize personal goals
11.02.06.06	Describe how personal values are reflected in work ethic
11.02.06.07	Describe how interactions in the workplace affect personal work ethic
11.02.07.00	Demonstrate work ethic I-11, M-11, R-12, LL
11.02.07.01	Examine factors that influence work ethic
11.02.07.02	Exhibit characteristics that reflect an appropriate work ethic
11.02.08.00	Prepare for employment I-11, M-11, R-12
11.02.08.01	Identify traditional and nontraditional employment sources
11.02.08.02	Utilize employment sources
11.02.08.03	Research job opportunities, including nontraditional careers
11.02.08.04	Interpret equal employment opportunity laws
11.02.08.05	Explain the critical importance of personal appearance, hygiene, and demeanor throughout the employment process
11.02.08.06	Prepare for generic employment tests and those specific to an occupation/organization



Common Core	
11.02.09.00	Design a resume I-11, M-11, R-12, LL
11.02.09.01	Identify personal strengths and weaknesses
11.02.09.02	List skills and/or abilities, career objective(s), accomplishments/achievements, educational background, and work experience
11.02.09.03	Demonstrate legible written communication skills using correct grammar, spelling, and concise wording
11.02.09.04	Complete resume using various formats
11.02.09.05	Secure references
11.02.10.00	Complete and process job application forms I-11, M-11, R-12, LL
11.02.10.01	Explain the importance of an application form
11.02.10.02	Identify ways to obtain job application forms
11.02.10.03	Describe methods for handling illegal questions on job application forms according to EOE regulations
11.02.10.04	Demonstrate legible written communication skills using correct grammar, spelling, and concise wording following EOE guidelines
11.02.10.05	Return application to proper person, request interview, and follow up
11.02.11.00	Demonstrate interviewing skills I-11, M-11, R-12, LL
11.02.11.01	Investigate interview environment and procedures
11.02.11.02	Explain the critical importance of personal appearance, hygiene, and demeanor
11.02.11.03	Demonstrate question and answer techniques
11.02.11.04	Demonstrate methods for handling difficult and/or illegal interview questions



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11.02.12.00	Secure employment I-11, R-12, LL
11.02.12.01	Identify present and future employment opportunities within an occupation/organization
11.02.12.02	Research the organization/company
11.02.12.03	Use follow-up techniques to enhance employment potential
11.02.12.04	Compare and evaluate job offers
11.02.13.00	Analyze the organizational structure of the workplace I-11, M-11, R-12, LL
11.02.13.01	Identify and evaluate employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
11.02.13.02	Be aware of and obey all company policies and procedures
11.02.13.03	Examine the role/relationship between employee and employer
11.02.13.04	Recognize opportunities for advancement and reasons for termination
11.02.14.00	Maintain positive relations with others I-11, R-12, LL
11.02.14.01	Exhibit appropriate work habits and attitude
11.02.14.02	Identify behaviors to establish successful working relationships
11.02.14.03	Cooperate and compromise through teamwork and group participation
11.02.14.04	Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age
11.02.15.00	Analyze opportunities for personal and career growth I-11, R-12, LL
11.02.15.01	Determine opportunities within an occupation/organization
11.02.15.02	Compare and contrast other opportunities



Common Core	
11.02.15.03	List benefits of job advancement
11.02.15.04	Evaluate factors involved when assuming a new position within or outside an occupation/organization
11.02.16.00	Exhibit characteristics needed for advancement I-11, R-12, LL
11.02.16.01	Display a positive attitude
11.02.16.02	Demonstrate knowledge of a position
11.02.16.03	Perform quality work
11.02.16.04	Adapt to changing situations and technology
11.02.16.05	Demonstrate capability for different positions
11.02.16.06	Participate in continuing education/training programs
11.02.16.07	Respect, accept, and work with ALL individuals in the workplace
11.02.17.00	Assess the impact of technology in the workplace I-11, M-12, LL
11.02.17.01	Cite how past business/industry practices have influenced present business/industry processes
11.02.17.02	Investigate the use of technology in the workplace
11.02.17.03	Analyze how present skills can be applied to learning new technologies
11.02.18.00	Use a variety of technological applications I-11, R-12, LL
11.02.18.01	Explore basic mathematical, scientific, computer, and technological principles
11.02.18.02	Use technology to accomplish assigned tasks
11.02.18.03	Create solutions to problems using technical means



11.02.19.00	Apply lifelong learning to individual situations I-11, R-12, LL
11.02.19.01	Define lifelong learning
11.02.19.02	Identify factors that cause the need for lifelong learning
11.02.20.00	Adapt to change I-11, R-12, LL
11.02.20.01	Analyze the effect of change
11.02.20.02	Identify reasons why goals change
11.02.20.03	Describe the importance of flexibility when reevaluating goals
11.02.20.04	Evaluate the need for continuing education/training
11.02.21.00	Analyze global enterprise system I-11, M-11, R-12, LL
11.02.21.01	Identify characteristics of various enterprise system
11.02.21.02	Examine the relationship between competition, risk, and profit
11.02.21.03	Illustrate how supply and demand influence price
11.02.22.00	Evaluate personal money management I-11, M-11, R-12, LL
11.02.22.01	Describe the need for personal management records
11.02.22.02	Identify methods of taxation
11.02.22.03	Analyze how credit affects financial security
11.02.22.04	Compare types and methods of investments
11.02.22.05	Prepare a personal budget
11.02.22.06	Be an informed and responsible consumer



Common Core	
11.02.22.07	Analyze the effects of advertising on the consumer
11.02.23.00	Analyze the effects of family on work I-11, R-12, LL
11.02.23.01	Recognize how family values, goals, and priorities are reflected in the workplace
11.02.23.02	Identify present and future family structures and responsibilities
11.02.23.03	Describe personal and family roles
11.02.23.04	Analyze concerns of parents who work outside the home
11.02.23.05	Examine how family responsibilities can conflict with work
11.02.23.06	Resolve family-related conflicts
11.02.23.07	Explain how to use support systems/community resources to help resolve family-related conflict
11.02.24.00	Analyze the effects of work on family I-11, M-11, R-12, LL
11.02.24.00 11.02.24.01	·
	I-11, M-11, R-12, LL
11.02.24.01	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work
11.02.24.01 11.02.24.02	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes
11.02.24.01 11.02.24.02 11.02.24.03	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04 11.02.24.05	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families  Identify family support systems and resources
11.02.24.01 11.02.24.02 11.02.24.03 11.02.24.04 11.02.24.05 11.02.24.06	I-11, M-11, R-12, LL  Identify responsibilities associated with paid and nonpaid work  Compare the advantages and disadvantages of multiple incomes  Explain how work can conflict with family responsibilities  Explain how work-related stress can affect families  Identify family support systems and resources  Identify stress management options to alleviate occupational "burnout"  Exercise the rights and responsibilities of citizenship in the workplace



11.02.26.00	Cooperate with others in the workplace I-11, R-12
11.02.26.01	Identify situations in which compromise is necessary
11.02.26.02	Examine how individuals from various backgrounds contribute to work-related situations
11.02.26.03	Demonstrate initiative to facilitate cooperation
11.02.26.04	Give and receive constructive criticism to enhance cooperation
11.02.27.00	Evaluate leadership styles appropriate for the workplace I-11, M-11, LL
11.02.27.01	Identify characteristics of effective leaders
11.02.27.02	Compare leadership styles including non-traditional "coaching"
11.02.27.03	Demonstrate effective delegative skills
11.02.27.04	Identify opportunities to lead in the workplace
11.02.28.00	Demonstrate effective teamwork skills I-11, M-11, LL
11.02.28.01	Identify the responsibilities of a valuable group member
11.02.28.02	Exhibit open-mindedness
11.02.28.03	Identify methods of involving each member of a team
11.02.28.04	Contribute to the efficiency and success of a group
11.02.28.05	Determine ways to motivate others
11.02.28.06	Explain the advantage of team decisions
11.02.28.07	Prepare and plan an agenda
11.02.28.08	Develop a plan of action
11.02.28.09	Assess success or failure of team



Common Core Utilize effective communication skills 11.02.29.00 I-11, R-12, LL Identify the importance of active listening 11.02.29.01 Demonstrate assertive communication 11.02.29.02 Recognize the importance of verbal and nonverbal cues and messages 11.02.29.03 Analyze written material 11.02.29.04 Prepare written material 11.02.29.05 11.02.29.06 Give and receive feedback Articulate thoughts 11.02.29.07 Use appropriate language 11.02.29.08 Demonstrate the value of networking 11.02.29.09 Evaluate the role of small business in the economy 11.02.30.00 I-11, M-11, R-12, LL Identify the benefits of small business to a community 11.02.30.01 Analyze opportunities for small business in a community 11.02.30.02 Examine considerations of starting a business 11.02.31.00 I-11, M-12, R-12, LL Research a business idea 11.02.31.01 Compare various ways to become a small business owner 11.02.31.02 Investigate factors to consider in financing a new business 11.02.31.03

Evaluate entrepreneurship as a career option



11.02.31.04

Insurance	
11.03.01.00	Secure fidelity of bonding I-11, R-12, M-AD, R-BD, LL
11.03.01.01	Identify need for fidelity of bonding
11.03.01.02	Complete application for fidelity of bonding
11.03.02.00	Identify requirements of payment system I-11, R-12, M-AD, R-BD, LL
11.03.02.01	Identify and follow required procedures for private carriers
11.03.02.02	Identify and follow required procedures for noninsured patients
11.03.02.03	Identify and follow required procedures for Health Maintenance Organization (HMO)
11.03.02.04	Identify and follow required procedures for Preferred Provider Organization (PPO)
11.03.02.05	Identify and follow required procedures for Independent Practitioner Association (IPA)
11.03.02.06	Identify and follow required procedures for U.S. government employees (CHAMPUS)
11.03.02.07	Identify and follow required procedures for Aid to Dependent Children (ADC)
11.03.02.08	Identify and follow required procedures for general assistance (GA)
11.03.02.09	Identify and follow required procedures for medicare
11.03.02.10	Identify and follow required procedures for medicaid
11.03.03.00	Identify procedure for diagnostic coding I-11, R-12, M-AD, R-BD, LL
11.03.03.01	Complete forms for proper coding of international classification of diseases (ICD-9 CM)



Common Core	
11.03.03.02	Complete forms for proper coding of current procedural terminology (CPT)
11.03.03.03	Complete forms for proper coding of health care procedural code (HCPC)
11.03.03.04	Complete forms for proper coding of diagnostic related groups (DRG)
Career Exploration	1
11.04.01.00	Demonstrate knowledge of the basic forms of medical practices I-11, M-11, LL
11.04.01.01	Define Sole Proprietorship
11.04.01.02	Define Associate Practice
11.04.01.03	Define Group Practice
11.04.01.04	Define Partnership
11.04.01.05	Define Professional Corporation
11.04.02.00	Demonstrate knowledge of medical care delivery I-11, M-11, LL
11.04.02.01	Define General and Family Practice
11.04.02.02	Define Prepaid Comprehensive Care
11.04.02.03	Define Specialty Practice
11.04.02.04	Define Preventive Medicine
11.04.02.05	Define Public Health
11.04.03.00	Demonstrate knowledge of specialties of medicine I-11, M-11, LL
11.04.03.01	Define Aerospace Medicine
11.04.03.02	Define Allergy and Immunology



Common Core	
11.04.03.03	Define Anesthesiology
11.04.03.04	Define Dermatology
11.04.03.05	Define Emergency Medicine
11.04.03.06	Define Family Practice
11.04.03.07	Define Internal Medicine
11.04.03.08	Define Neurology
11.04.03.09	Define Nuclear Medicine
11.04.03.10	Define Obstetrics and Gynecology
11.04.03.11	Define Ophthalmology
11.04.03.12	Define Otolaryngology
11.04.03.13	Define Pathology
11.04.03.14	Define Pediatrics
11.04.03.15	Define Physical Medicine and Rehabilitation
11.04.03.16	Define Preventive Medicine
11.04.03.17	Define Psychiatry
11.04.03.18	Define Radiology
11.04.03.19	Define Surgery
11.04.03.20	Define Urology
11.04.04.00	Demonstrate knowledge of allied health professions I-11, M-11, LL
11.04.04.01	Describe the role of the Anesthesiologist's Assistant

Describe the role of the Cardiovascular Technologist

Describe the role of the Cytotechnologist



11.04.04.02

11.04.04.03

Common Core	
11.04.04.04	Describe the role of the Diagnostic Medical Sonographer
11.04.04.05	Describe the role of the Emergency Medical Technician
11.04.04.06	Describe the role of the Paramedic
11.04.04.07	Describe the role of the Electroneurodiagnostic Technologist
11.04.04.08	Describe the role of the Histologic Technician/Technologist
11.04.04.09	Describe the role of the Medical Assistant
11.04.04.10	Describe the role of the Medical Illustrator
11.04.04.11	Describe the role of the Medical Laboratory Technician
11.04.04.12	Describe the role of the Medical Records Administrator
11.04.04.13	Describe the role of the Medical Technologist
11.04.04.14	Describe the role of the Nuclear Medicine Technologist
11.04.04.15	Describe the role of the Ophthalmic Medical Technologist
11.04.04.16	Describe the role of the Occupational Therapist
11.04.04.17	Describe the role of the Physician's Assistant
11.04.04.18	Describe the role of the Perfusionist/Phlebotomist
11.04.04.19	Describe the role of the Radiographer
11.04.04.20	Describe the role of the Radiation Therapy Technician
11.04.04.21	Describe the role of the Respiratory Technician
11.04.04.22	Describe the role of the Surgeon's Assistant
11.04.04.23	Describe the role of the Specialist in Blood Bank Technology
11.04.04.24	Describe the role of the Surgical Technologist



Common Core 11.04.05.00	Demonstrate knowledge of members of the health care team I-11, M-11, LL	
11.04.05.01	Describe the role of the EKG technician	
11.04.05.02	Describe the role of the Medical Technologist	
11.04.05.03	Describe the role of the Certified Medical Transcriptionist	
11.04.05.04	Describe the role of the Translator	
11.04.05.05	Describe the role of the Licensed Practical Nurse/Licensed Vocational Nurse	
11.04.05.06	Describe the role of the Registered Nurse	
11.04.05.07	Describe the role of the Nurse Practitioner	
Medical Law and Ethics		
11.05.01.00	Practice personal professional protocol with the medical community I-11, M-11, R-12	
11.05.01.01	List licensure requirements for physicians	
11.05.01.02	Describe methods of licensure	
11.05.01.03	List exceptions to the need for licensure	
11.05.01.04	Define the components of public law and private law	
11.05.01.05	Recognize the differences between ethics and law .	
11.05.01.06	Describe the reason diagnostic related groups are causing an ethical issue for physicians	
11.05.01.07	Name one societal group denied health insurance	
11.05.01.08	Comply with tax requirements	
11.05.01.09	Maintain integrity of personal files	
11.05.01.10	Be aware of statute of limitation	
11.05.01.11	Identify ownership of medical records	



Common Core Practice personal professional responsibilities 11.05.02.00 I-11, M-11, R-12, LL Participate in professional associations 11.05.02.01 Participate in professional development inservices 11.05.02.02 Practice personal professional protocol with regard to patient issues 11.05.03.00 I-11, M-11, R-12, LL Inform patient of truth of lending law 11.05.03.01 Inform patient of anatomical gift act 11.05.03.02 List and define the three categories of medical transplants 11.05.03.03 Name the most common transplant 11.05.03.04 Name four examples of tort law 11.05.03.05 Define the term emancipated minor 11.05.03.06 Describe the three parts of a physician-patient contract 11.05.03.07 Define the terms implied consent and express consent 11.05.03.08 Define the term privileged communication 11.05.03.09 List instances of legally required disclosure 11.05.03.10 Explain the terms defamation of character, libel and slander 11.05.03.11 Describe the conditions for revocation or suspension of a medical 11.05.03.12 license Inform patient of living will 11.05.03.13 Explain informed consent 11.05.03.14

Explain reasons for termination of patient services

Inform patient about remuneration

Inform patient about noncompliance with physician's recommendations



11.05.03.15

11.05.03.16

11.05.03.17

Common Core	
11.05.03.18	Inform patient of impact of communicable diseases
11.05.03.19	List ethical considerations surrounding the life of a fetus
11.05.04.00	Demonstrate knowledge of professional liability I-11, M-11, R-12, LL
11.05.04.01	List rights of the physician in providing medical care
11.05.04.02	List rights of the patient receiving medical care
11.05.04.03	Define and give examples of abandonment
11.05.04.04	Define and give examples of professional negligence
11.05.04.05	Give an example of implied agreement
11.05.04.06	Describe the precaution that should be observed in giving written instructions to patients
11.05.04.07	List the reasons for keeping medical records
11.05.04.08	List the record keeping necessary to provide legally adequate records
11.05.04.09	Name the six basic principles for preventing unauthorized disclosure of patient information
11.05.04.10	Describe the acceptable method for making changes in medical records
11.05.05.00	Demonstrate knowledge of legal issues as defined by the NATP I-11, M-11, R-12
11.05.05.01	Define terms associated with legal responsibilities
11.05.05.02	Identify types of lawsuits prevalent in health care facilities
11.05.05.03	Identify precautions to take against a civil lawsuit
11.05.05.04	Identify types of litigation that could apply to selected case situations
11.05.05.05	Identify reporting and recording process for abuse, neglect, and/or mistreatment of consumer
11.05.05.06	Identify the purpose of the incident/accident reports



Common C	ore
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11.05.05.07	Identify types of incidents that must be reported
11.05.05.08	Complete report for incidents involving clients, visitors, and/or health care staff
11.05.05.09	Identify responsibility regarding negligent behavior
11.05.05.10	Discuss the importance of keeping the client's personal information confidential
11.05.05.11	Discuss the health care worker's responsibility for his/her own actions

### Quality Assurance

11.06.01.00	Maintain control system(s) I-11, M-11, R-12
11.06.01.01	Perform peer review
11.06.01.02	Perform calibration and proficiency testing of equipment
11.06.01.03	Use standards and controls to check precision and accuracy of laboratory equipment
11.06.01.04	Perform record(s) audits
11.06.01.05	Discard outdated reagents
11.06.01.06	Follow all procedures exactly to test specimen
11.06.01.07	Perform test in duplicate
11.06.01.08	Periodically check the accuracy of the test results with a reference laboratory (proficiency testing)
11.06.02.00	Perform risk management I-11, M-11, R-12
11.06.02.01	Maintain patient follow-up system (e.g. tickler file)
11.06.02.02	Participate in continuing education



11.06.03.00	Maintain documentation records I-11, M-11, R-12
11.06.03.01	Establish criteria for Quality Health Care in each specialty, e.g.: Nursing, Clinical Laboratory, Pharmacy, X-Ray, EKG, Respiratory Therapy, Physical Therapy
11.06.03.02	Graph/chart quality control activities
11.06.03.03	Perform/document maintenance of equipment and other non expendables
11.06.03.04	Maintain patient records
11.06.04.00	Establish a quality assurance program stipulating policies and procedures for performance, documentation and validation of patient care and test results I-11, M-11, R-12
11.06.04.01	Maintain temperature logs
11.06.04.02	Perform routine maintenance and checks of equipment used by patients and equipment used for testing
11.06.04.03	Where applicable perform controls and standards to validate test results and maintain documentation of same
11.06.04.04	Participate in a proficiency testing program to document validity of patient tests results in accordance with CLIA 88

## **Hazard Management**

11.07.01.00	Identify environmental safety hazards, accident prevention methods and disaster plans I-11, M-11, R-12, LL
11.07.01.01	Identify environment of local health care settings
11.07.01.02	Follow environmental safety rules of facility
11.07.01.03	Identify fire prevention methods, fire control, fire alarm systems and fire reporting procedures



Common Core	
11.07.01.04	Demonstrate use of fire extinguisher
11.07.01.05	Identify facility disaster plan
11.07.01.06	Follow safety precautions for using equipment
11.07.01.07	Follow safety precautions for using liquids and poisonous substances
11.07.01.08	Identify and correct safety hazards
11.07.01.09	Write incident reports for accidents or safety infractions
11.07.01.10	Identify legal implications of accidents in health care facilities
11.07.02.00	Demonstrate application of patient/client safety principles I-11, M-11, R-12, LL
11.07.02.01	Identify chemical, physical and environmental restraints
11.07.02.02	Identify instances in which restraints are used
11.07.02.03	Identify ways to minimize need for physical or chemical restraints
11.07.02.04	Identify safety rules pertaining to patient's activity
11.07.03.00	Demonstrate principles of body mechanics and ergonomics I-11, M-11, R-12, LL
11.07.03.01	Identify principles of ergonomics
11.07.03.02	Demonstrate proper mechanics in lifting, moving, transferring, ambulating and positioning a patient
11.07.03.03	Identify common causes of back injuries
11.07.04.00	Comply with state and federal regulations I-11, M-12, R-12, LL
11.07.04.01	Comply with Occupational Safety and Health Administration (OSHA) regulations
11.07.04.02	Comply with Environmental Protection Agency (EPA) regulations



Common Core	
11.07.04.03	Report communicable diseases to local health authorities as specified by CLIA 88
11.07.05.00	Maintain personal safety and hygiene I-11, M-12, R-12, LL
11.07.05.01	Wear uniform and/or professional attire
11.07.05.02	Practice proper hygiene
11.07.05.03	Become immunized against communicable diseases
11.07.05.04	Complete incident reports as required
11.07.05.05	Demonstrate safe and effective sterilizing methods for instruments and equipment
11.07.06.00	Dispose of waste materials in compliance with government regulations I-11, M-12, R-12, LL
11.07.06.01	Practice safe, sanitary, and sterile procedures
11.07.06.02	Dispose of paper and plastic supplies and gloves
11.07.06.03	Dispose of infectious waste
11.07.06.04	Dispose of controlled substances
11.07.06.05	Handle and properly dispose of needles, glass and sharp instruments
Infection Control	
11.08.01.00	Demonstrate general principles of asepsis I-11, M-11, R-12, LL
11.08.01.01	Define infection control terms
11.08.01.02	Identify modes of transmission for infection
11.08.01.03	Identify common communicable diseases and modes of transmission
11.08.01.04	Identify physical symptoms, treatment, and prevention of infection



Common Core	
11.08.01.05	Demonstrate universal precautions
11.08.01.06	Identify different aseptic techniques
11.08.02.00	Demonstrate hand-washing technique I-11, M-11, R-12
11.08.02.01	Identify times when hands should be washed
11.08.02.02	Demonstrate each step of hand-washing procedure
11.08.03.00	Practice universal precautions against infection I-11, M-11, R-12, LL
11.08.03.01	Wear appropriate protective clothing and devices
11.08.03.02	Demonstrate hand-washing technique
11.08.03.03	Perform terminal disinfection
11.08.04.00	Demonstrate isolation technique I-11, M-11, R-12, LL
11.08.04.01	Identify different types of isolation
11.08.04.02	Demonstrate mask and gown technique
11.08.04.03	Demonstrate double bagging technique
11.08.04.04	Demonstrate procedures for disposal of soiled materials
11.08.05.00	Maintain infection control of work area I-11, M-11, R-12, LL
11.08.05.01	Contain used linens
11.08.05.02	Clean and disinfect sink
11.08.05.03	Clean and disinfect counter surfaces
11.08.05.04	Clean and disinfect examination tables
11.08.05.05	Check floors



11.08.06.00	Apply principles of aseptic techniques and sterility of medical equipment and instruments I-11, M-11, R-12
11.08.06.01	Read and follow manufacturer's instructions for safe operations of all equipment and instruments
11.08.06.02	Apply and maintain infection control in cabinets and drawers
11.08.06.03	Prescrub instruments
11.08.06.04	Sterilize instruments
11.08.06.05	Store sterilized equipment and supplies
11.08.06.06	Maintain quality-control log

### **HIV/AIDS Education**

(Mult 171)

11.09.01.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the virus I-11, M-11, R-12, LL
11.09.01.01	Define "HIV"
11.09.01.02	Define "AIDS"
11.09.01.07	Define the "Immune System"
11.09.01.09	Define "Antibodies"
11.09.01.10	Discuss what happens when someone gets the virus that causes AIDS
11.09.01.12	Explain the incubation period for AIDS
11.09.01.13	Discuss how AIDS is diagnosed
11.09.01.16	Discuss how long the virus survives outside the body
11.09.01.17	Define "Opportunistic Infections"



Common Core	
11.09.02.00	Demonstrate knowledge of the essential facts about HIV and AIDS and transmission and prevention I-11, M-11, R-12, LL
11.09.02.01	Explain how AIDS is spread
11.09.02.09	Discuss the risks of health care workers getting AIDS on the job
11.09.02.10	Discuss the risks of being a patient in a doctor's or dentist's office
11.09.02.11	Explain universal precautions
11.09.02.12	Identify the steps to cleaning up blood spills on the floor
11.09.02.27	Identify the steps to cleaning needles guarding against AIDS
11.09.02.28	Identify the drugs associated with getting AIDS
11.09.02.29	Discuss the risks of sharing needles and syringes for the I-V drug user
11.09.02.30	Discuss AIDS and saliva, tears, urine and feces
11.09.02.31	Recognize the risks of AIDS and human bites
11.09.03.00	Demonstrate knowledge of the essential facts about HIV and AIDS and casual contact I-11, M-11, R-12, LL
11.09.03.01	Recognize the fact that you cannot get AIDS from casual contact such as sharing a drinking glass, public toilets, drinking fountains, telephones, public transportation, swimming pools, hugging or touching
11.09.04.00	Demonstrate knowledge of the essential facts about HIV and AIDS - getting tested I-11, M-11, R-12, LL
11.09.04.01	Discuss when someone should get tested to find out if they are infected
11.09.04.02	Define "Confidential Testing"
11.09.04.03	Define "Anonymous Testing"



Common Core	
11.09.04.04	Identify where people can get tested
11.09.04.05	Identify the time period between exposure and testing
11.09.05.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the blood supply and related issues I-11, M-11, R-12, LL
11.09.05.01	Discuss the facts of donating blood and AIDS
11.09.05.02	Discuss the risks of blood transfusions
11.09.05.03	Identify the procedures taken by the Red Cross to protect the blood supply
11.09.06.00	Demonstrate knowledge of the essential facts about HIV and AIDS and children with HIV I-11, M-11, R-12, LL
11.09.06.01	Explain how babies and young children get AIDS
11.09.06.03	Discuss the probability of a baby testing positive meaning that he or she has HIV
11.09.06.04	Discuss how soon you can test a baby for HIV
11.09.06.08	Explain that AIDS is not transmitted in children through vomit, urine or feces
11.09.06.09	Identify that there is no risk of getting AIDS from a child through contact sports unless there is blood involved
11.09.07.00	Demonstrate knowledge of the essential facts about HIV and AIDS and the social impact I-11, M-11, R-12, LL
11.09.07.01	Identify the laws protecting people with AIDS from discrimination
11.09.07.02	Identify the federal and state laws protecting a person with AIDS from being fired from their job

Recognize how AIDS affects the workplace



11.09.07.03

Common Core	
11.09.07.05	Discuss testing the health care worker for AIDS
11.09.07.06	Define "Needle-Exchange" programs
11.09.08.00	Identify additional facts about the AIDS virus I-11, M-11, R-12, LL
11.09.08.01	Define "ARC"
11.09.08.02	Explain AIDS-related complex
11.09.08.09	Identify the changes made recently in the way the CDC defines AIDS
11.09.08.13	Define "HIV-2"
11.09.08.14	Discuss the second HIV virus
11.09.08.21	Define "Pneumocystic Carinii"
11.09.08.22	Define "Kaposi's Sarcoma"
11.09.08.23	Explain how AZT works
11.09.09.00	Identify additional facts about transmission and prevention of AIDS I-11, M-11, R-12, LL
11.09.09.02	Discuss the "Risk not reported or identified" category
11.09.09.11	Define "nonoxynol-9"
11.09.09.12	Define "Parenteral Transmission"
11.09.09.14	Explain why crack is associated with AIDS
11.09.09.17	Explain why police and firefighters wear gloves when dealing with people who might have AIDS
11.09.10.00	Identify additional facts about testing and AIDS I-11, M-11, R-12, LL
11.09.10.01	Explain how you test for AIDS



Common Core	
11.09.10.02	Discuss the effectiveness of the antibody blood tests
11.09.10.03	Explain why people are counseled before and after testing
11.09.11.00	Identify additional facts about blood supply and related services and AIDS I-11, M-11, R-12, LL
11.09.11.01	Discuss freezing blood and the effect on HIV
11.09.11.02	Discuss storing blood and the effect on HIV
11.09.11.03	Explain the development of antibodies to HIV after blood is collected
11.09.11.04	Identify the risks of becoming infected from a transfusion
11.09.11.11	Explain the process of screening for AIDS in a sperm bank
11.09.11.12	Explain the process of screening for AIDS in an organ bank
11.09.11.13	Discuss AIDS and the hepatitis B vaccine
11.09.12.00	Identify additional facts about children with HIV infection I-11, M-11, R-12, LL
11.09.12.05	Define "Perinatal transmission"
11.09.12.12	Explain why some babies of infected mothers get HIV
11.09.12.13	Discuss the risk of an HIV infected mother giving it to the baby
11.09.12.15	Discuss the difference of AIDS in babies and children compared to AIDS in adults
11.09.12.18	Explain the types of medicine doctors give children with HIV
11.09.12.19	Discuss children with AIDS and vaccinations
11.09.13.00	Identify additional facts about the social impact of HIV infection I-11, M-11, R-12, LL
11.09.13.01	Discuss the costs of medical care for a person who has AIDS
	I-11, M-11, R-12, LL



Common Core	
11.09.13.02	Discuss what might change the estimates of future medical costs of AIDS
11.09.13.04	Recognize the difficulty people with AIDS have getting new health insurance
11.09.13.05	Discuss the kinds of medical care for people with AIDS covered by Medicaid
11.09.13.07	Explain how the federal government divides up money for different AIDS activities
11.09.13.08	Discuss testing patients for HIV for the protection of the health care worker
11.09.14.00	Identify additional facts about first aid, CPR and aquatics and AIDS I-11, M-11, R-12, LL
11.09.14.01	Discuss the safety in the use of manikins during CPR
11.09.14.02	Explain the decontamination process of the manikins for HIV
11.09.14.06	Recognize the person with AIDS as being a candidate for certification of CPR
11.09.14.07	Discuss modifying the First Aid and CPR requirements with the employer for the safety of all persons
11.09.14.08	Discuss the risks involved in performing CPR on someone when you are infected with HIV
11.09.14.09	Discuss the risks of becoming infected with HIV from receiving CPR from a person who is HIV infected
11.09.14.10	Discuss the personal, moral and ethical considerations, not legal obligations, of helping someone who is bleeding who might have AIDS
11.09.14.11	Recognize the risks of being a member of a First Aid team and contacting AIDS

Recommended Assessment: American Red Cross Certification



# Community First Aid and Safety

(Mult 102, Mult 103)

11.10.01.00	Respond as a citizen and help in an emergency I-11, M-11, R-12, LL
11.10.01.01	Recognize an emergency
11.10.01.02	List the 3 general steps in the emergency plan
11.10.01.03	Call EMS and give necessary information
11.10.01.04	Demonstrate how to check a conscious or an unconscious victim
11.10.02.00	Respond to a breathing cardiac emergency in an adult I-11, M-11, R-12, LL
11.10.02.01	List the signals of a breathing emergency
11.10.02.02	List the signals of a heart emergency
11.10.02.03	Demonstrate how to care for a person who is not breathing
11.10.02.04	Demonstrate how to care for a person who is choking
11.10.02.05	Demonstrate how to care for a person who is in cardiac arrest
11.10.02.06	List four risk factors associated with increased incidence of cardiovascular disease
11.10.03.00	Respond to a breathing or cardiac emergency in infants and children I-11, M-11, R-12, LL
11.10.03.01	List at least 4 signals of a breathing emergency for an infant child
11.10.03.02	Demonstrate how to care for an infant or child who is not breathing
11.10.03.03	Demonstrate how to care for an infant or child who is choking
11.10.03.04	Demonstrate how to care for an infant or child whose heart has stopped
11.10.03.05	List the four leading causes of childhood death



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11.10.03.06	List three ways to help prevent childhood injuries
11.10.04.00	Recognize and care for victims of illness and sudden injuries I-11, M-11, R-12, LL
11.10.04.01	Recognize an injury or sudden illness
11.10.04.02	Demonstrate how to control bleeding
11.10.04.03	Demonstrate how to care for muscle, bone, and joint injuries
11.10.04.04	Describe how to care for sudden illnesses
11.10.04.05	List the general care steps for burns

Recommended Assessment: American Red Cross Adult CPR; American Red Cross Infant CPR; American Red Cross Standard First Aid; and American Heart Association Basic Life Support C for the Health Care Provider.

#### Nurse Aide Training Program

(Mult 120)

11.11.01.00	Introduce the NATP I-11, M-11, LL
11.11.01.01	Identify the purpose of the NATP
11.11.01.02	List the role and responsibility of the trainer and NA
11.11.01.03	State the purpose of the CEP conducted by the director
11.11.01.04	Describe how to be recorded in Ohio's Nurse Aide Registry
11.11.01.05	Show employment verification required every 24 months
11.11.01.06	Use information about Ohio's Nurse Aide Registry (NAR)
11.11.01.07	Describe how mistreatment, abuse and neglect by NA are reported and recorded in Ohio
11.11.01.08	Explain the in-service requirement



Common Core	
11.11.01.09	Explain how to receive information related to state testing
11.11.01.10	Discuss the differences between state tested and certified
11.11.02.00	Demonstrate knowledge of work environment I-11, M-11
11.11.02.01	Describe the responsibilities of the LTCF governing body and staff
11.11.02.02	Identify other individuals the NA may encounter
11.11.03.00	State role and responsibility of nurse aide I-11, M-11
11.11.03.01	Perform bedside nursing care
11.11.03.02	Maintain care of resident's unit
11.11.03.03	Provide nourishment
11.11.03.04	Provide record keeping and communication
11.11.03.05	Promote residents' rights
11.11.03.06	Maintain confidentiality
11.11.03.07	Set priorities
11.11.04.00	Demonstrate knowledge of policy and procedure manuals I-11, M-11, R-12, LL
11.11.04.01	Identify the purpose of the facility policy and procedures manual
11.11.05.00	Demonstrate knowledge of professional attitudes and appearance I-11, M-11, R-12, LL
11.11.05.01	Identify desirable attitudes and actions which will lead to successful job performance for the NA
11.11.05.02	Discuss desirable personal grooming habits for the NA



Common Core	
11.11.06.00	Demonstrate knowledge of communication and interpersonal skills I-11, M-11, R-12, LL
11.11.06.01	Describe attitudes which promote communication between people
11.11.06.02	Identify behaviors which will help accomplish effective communication between the NA and residents
11.11.06.03	List factors which promote good communication among the NA and the resident, resident's family and friends
11.11.06.04	List factors which may block effective communication between the resident and their family and friends
11.11.06.05	List factors which promote effective communication between the NA and their immediate supervisor
11.11.06.06	List factors which block effective communication with the immediate supervisor
11.11.06.07	List steps for answering the resident's call signal
11.11.06.08	Identify techniques which promote effective communication using the telephone or intercom
11.11.07.00	Communicate and interact with the impaired resident I-11, M-11, R-12, LL
11.11.07.01	Describe appropriate communication techniques for vision, hearing, speech and/or physically impaired residents
11.11.07.02	Identify techniques to communicate with the confused, withdrawn, depressed, agitated, restless resident
11.11.07.03	List methods to communicate with the combative resident
11.11.08.00	Demonstrate knowledge of resident comprehensive assessment, care plan and care conference I-11, M-11, R-12, LL
11.11.08.01	State the purpose of a resident comprehensive assessment
11.11.08.02	State the purpose of a resident care plan



Common Core	
11.11.08.03	State the purpose of the resident care conference
11.11.08.04	Identify the role of the NA in the care planning process
11.11.08.05	Describe the NA's role in gathering and documenting information on the worksheet
11.11.09.00	Demonstrate knowledge of legal responsibilities I-11, M-11, R-12, LL
11.11.09.01	Identify key legal aspects of resident care as they relate to the role of the NA
11.11.09.02	Identify the NA's role and responsibility regarding negligent behavior by the NA and the reporting of abuse, mistreatment, and/or neglect of a resident
11.11.09.03	Discuss the importance of keeping the resident's personal information confidential
11.11.09.04	Identify the purpose of the incident/accident reports
11.11.09.05	Discuss the NA responsibility for own actions
11.11.10.00	Demonstrate knowledge components of medical records I-11, M-11, R-12, LL
11.11.10.01	Identify the purpose of the medical record
11.11.10.02	Identify ways the NA can contribute to the medical record
11.11.10.03	Identify common medical abbreviations
11.11.10.04	Identify proper methods of documentation
11.11.11.00	Identify basic principles of infection control I-11, M-11, R-12, LL
11.11.11.01	Identify the basic principles of infection control
11.11.11.02	Identify reasons why infection prevention and control is important



Common Core	
11.11.11.03	ldentify factors which promote growth of microorganisms
11.11.11.04	Identify ways pathogenic microorganisms are spread
11.11.11.05	Identify practices which hinder the spread of infection
11.11.12.00	Prevent the growth and spread of pathogenic microorganisms I-11, M-11, R-12, LL
11.11.12.01	Discuss reasons for correct hand washing
11.11.12.02	Demonstrate effective hand washing techniques
11.11.12.03	Identify methods used to control or eliminate microorganisms on supplies and equipment
11.11.12.04	Describe the difference between clean, contaminated and sterile
11.11.13.00	Identify signs and symptoms of infection and use of universal precautions I-11, M-11, R-12, LL
11.11.13.01	Identify signs and symptoms of infection
11.11.13.02	State the purpose of universal precautions as defined in OAC
11.11.13.03	Demonstrate universal precaution techniques as defined in Chapter 3734 ORC
11.11.13.04	Demonstrate Respiratory Isolation techniques
11.11.14.00	Practice general safety practices and procedures I-11, M-11, R-12, LL
11.11.14.01	Identify reasons to apply safety precautions in LTCFs.
11.11.14.02	Identify safety precautions which help to prevent residents from falling
11.11.14.03	Identify precautions the NA should take to prevent residents from being burned



Common Core Identify safety precautions the NA should take to help prevent resident 11.11.14.04 falls from beds, chairs and wheelchairs Identify the safety precautions the NA should take to help prevent the 11.11.14.05 resident from choking Identify precautions the NA should take to help prevent ingestion of 11.11.14.06 harmful substances by residents Demonstrate the steps of the Heimlich Maneuver 11.11.14.07 Identify measures the NA should take should a resident ingest a 11.11.14.08 harmful substance Practice safety procedures when using oxygen and oxygen equipment 11.11.15.00 I-11, M-11, R-12 Identify safety precautions for oxygen use 11.11.15.01 Demonstrate a safety check of oxygen equipment 11.11.15.02 Demonstrate fire prevention practices and procedures to follow in case 11.11.16.00 of fire disaster I-11, M-11, R-12 Identify measures which should be taken to prevent fires in a LTCF 11.11.16.01 Describe causes of fires in LTCFs 11.11.16.02 Identify actions to take when a fire is discovered 11.11.16.03 Demonstrate fire carries 11.11.16.04 Identify examples of hazardous conditions that should be reported for 11.11.16.05 correction Name devices which are used or activated when a fire occurs in a 11.11.16.06 **LTCF** 



Common Core	
11.11.17.00	Demonstrate knowledge of natural disaster preparedness I-11, M-11, R-12
11.11.17.01	Discuss safety measures to be taken when there is a threat of a tornado or other natural disaster
11.11.18.00	Practice principles of ergonomics, body mechanics and body alignment I-11, M-11, R-12
11.11.18.01	Define and discuss Ergonomics as it applies to the NA
11.11.18.02	Define Body Mechanics
11.11.18.03	Identify and demonstrate the rules of good body mechanics
11.11.18.04	Demonstrate general principles for lifting and moving residents
11.11.18.05	Describe correct body alignment
11.11.18.06	Explain why correct body alignment is important
11.11.18.07	Demonstrate correct positioning of a person in proper body alignment
11.11.18.08	Describe the posture most commonly found among the elderly
11.11.19.00	Use and application of restraints I-11, M-11, R-12
11.11.19.01	Describe the purpose of restraints
11.11.19.02	Identify guidelines to follow in the application of restraints
11.11.19.03	Describe observations to make on the resident with restraints
11.11.19.04	Define various types of commonly used restraints for the LTCF
11.11.19.05	Demonstrate how to safely apply restraints



Common Core	
11.11.20.00	Demonstrate use of wheelchairs, geriatric chairs, lifts, ambulation devices and techniques I-11, M-11, R-12
11.11.20.01	Identify and discuss the safety precautions involved in the use of wheelchairs and geriatric chairs
11.11.20.02	Demonstrate safe use of wheelchairs and geriatric chairs
11.11.20.03	Describe the types and purposes of hydraulic lifts
11.11.20.04	Identify and demonstrate safety precautions involved in the operation of portable hydraulic lifts to move residents
11.11.20.05	Identify safe and proper uses of walkers, canes and crutches
11.11.20.06	Demonstrate the safe way to assist a resident to walk
11.11.21.00	Promote the residents' independence I-11, M-11, R-12
11.11.21.01	Identify losses, both physical and psychosocial, which may decrease independence
11.11.21.02	Identify some of the aspects of independent living a person may lose when they reside in a LTCF
11.11.21.03	Demonstrate positive ways a NA can promote the resident's independence
11.11.21.04	Name or list types of choices available to the resident to gain the highest level of independence
11.11.22.00	Respect residents' rights R-11, M-11, R-12
11.11.22.01	Identify legal rights of the resident contained in the Ohio Resident Bill of Rights (ORBR)



Common Core Practice observational skills 11.11.23.00 I-11, M-11, R-12 Discuss the importance of observation 11.11.23.01 Describe various observation techniques 11.11.23.02 Identify observations to be made during resident care 11.11.23.03 Describe how to report and record observations 11.11.23.04 Recognize changes in body functioning 11.11.24.00 I-11, M-11, R-12 Describe how the NA might recognize that a resident has impaired 11.11.24.01 vision Describe changes in vision which may accompany aging 11.11.24.02 Name diseases which may cause visual impairment 11.11.24.03 Demonstrate ways to change the environment to encourage the visually 11.11.24.04 impaired resident's independence and to promote safety Identify warning signs of hearing impairment 11.11.24.05 Describe changes in hearing which may accompany aging 11.11.24.06 Demonstrate ways to modify communication to a person with a 11.11.24.07 hearing loss Discuss the use and care of hearing aids 11.11.24.08 List actions to help prevent injury to the resident with impaired touch 11.11.24.09 Describe changes in behavior which may follow loss of the senses of 11.11.24.10 taste and smell



11.11.24.11

11.11.24.12

List ways to aid the resident who has losses of taste and smell

Describe how the changes of aging may affect gastrointestinal function

Common Core	
11.11.24.13.	Describe the special care the NA might give a resident with a digestive disorder
11.11.24.14	Identify descriptions of reproductive system disorders
11.11.24.15	Describe changes of aging which affect the musculoskeletal system
11.11.24.16	Identify measures the NA can do to assist the resident with musculoskeletal diseases or problems
11.11.25.00	Recognize signs and symptoms of common diseases I-11, M-11, R-12
11.11.25.01	Describe the changes of aging which may affect the heart and blood vessels
11.11.25.02	Identify changes the resident may experience as a result of decreased cardiovascular function and the appropriate NA actions
11.11.25.03	Identify changes the resident may experience as a result of decreased respiratory function
11.11.25.04	Identify measures to aid the resident with shortness of breath
11.11.25.05	Identify the common signs and symptoms of diabetes
11.11.25.06	Identify the three key components of the diabetic resident's treatment plan
11.11.25.07	List possible complications of Diabetes and related NA actions
11.11.25.08	Describe changes of aging which may affect urinary function
11.11.25.09	Identify how the NA can help promote good kidney function
11.11.25.10	Identify the primary nervous system changes due to aging
11.11.25.11	Identify common nervous system disorders found among the elderly
11.11.25.12	Identify actions which maintain the safety and dignity of the resident who has nervous system disorders



Common Core Create a homelike environment in a Long Term Care Facility 11.11.26.00 I-11, M-11, R-12 Identify major items in the resident's unit 11.11.26.01 Identify measures to keep the resident's environment comfortable 11.11.26.02 Demonstrate tasks necessary to assure that the resident's unit is 11.11.26.03 properly maintained Use bedmaking techniques and comfort measures for the bed bound 11.11.27.00 resident I-11, M-11, R-12 State reasons why bedmaking techniques are important for the bed 11.11.27.01 bound resident Demonstrate types of bedmaking and identify when each is appropriate 11.11.27.02 Demonstrate measures which promote comfort for the resident 11.11.27.03 Admit and discharge a resident 11.11.28.00 I-11, M-11, R-12 Identify feelings the resident and family may have at the time of 11.11.28.01 admission Identify actions the NA may take to assist the resident during 11.11.28.02 admission Identify feelings the resident may have when discharged 11.11.28.03 Provide a positive mealtime experience 11.11.29.00 I-11, M-11, R-12 Discuss how to promote a positive atmosphere at mealtime 11.11.29.01 Identify devices and techniques which may be used to help the resident 11.11.29.02 maintain independence while eating Describe and demonstrate how to feed a resident 11.11.29.03

State how to identify a choking victim



11.11.29.04

11.11.30.00	Provide adequate nutrition and fluid needs I-11, M-11, R-12
11.11.30.01	Discuss factors which affect the nutritional state of the resident
11.11.30.02	Name examples of a modified diet
11.11.30.03	Identify the NA's responsibility for residents who require a therapeutic diet
11.11.30.04	Describe the role of the dietary department in providing nutrition for the resident
11.11.30.05	Identify the importance of adequate hydration
11.11.30.06	Describe a method to encourage fluid intake
11.11.31.00	Measure height and weight I-11, M-11, R-12
11.11.31.01	Discuss why a resident's weight is regularly measured and recorded
11.11.31.02	Describe and demonstrate how to weight a resident accurately
11.11.31.03	Describe and demonstrate how to measure and record a resident's height accurately
11.11.32.00	Observe and measure vital signs I-11, M-11, R-12
11.11.32.01	Identify abbreviations of the vital signs
11.11.32.02	Identify the cause of body temperature
11.11.32.03	Identify the "normal" or average body temperature
11.11.32.04	List situations which may cause the thermometer reading to vary from "normal or average"
11.11.32.05	Identify types of thermometers and situations in which they are used
11.11.32.06	Demonstrate how to care for glass thermometers



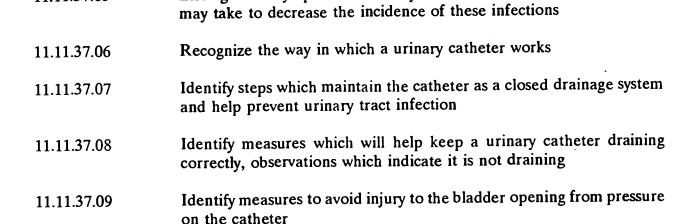
Common Core	
11.11.32.07	Describe each method of check temperatures
11.11.32.08	Identify how the NA should record and report temperature measurements
11.11.32.09	State the "normal" or average pulse rate
11.11.32.10	Identify variations from the "normal" pulse which should be reported
11.11.32.11	Demonstrate the accurate taking of a radial and apical pulse
11.11.32.12	Discuss how to record and report pulse measurement
11.11.32.13	State the average respiratory rate
11.11.32.14	Describe how to measure respiratory rate
11.11.32.15	Discuss how to record and report the respiratory rate measurement
11.11.32.16	Identify what causes blood pressure
11.11.32.17	State the "normal" or average blood pressure
11.11.32.18	Describe variations in blood pressure
11.11.32.19	Identify instruments to check blood pressure
11.11.32.20	Describe how to check blood pressure
11.11.32.21	Identify how to record and report blood pressure measurements
11.11.33.00	Provide oral hygiene I-11, M-11, R-12
11.11.33.01	Name goals for oral hygiene
11.11.33.02	Identify general practices for oral hygiene
11.11.33.03	State and demonstrate the correct method for brushing a resident's teeth



Common Core	
11.11.33.04	Identify and demonstrate how to safely care for the resident's dentures
11.11.33.05	Describe safe mouth care for the unconscious resident or the resident who cannot take food orally
11.11.34.00	Give a bath I-11, M-11, R-12
11.11.34.01	Discuss factors which affect a resident's hygiene needs and practices
11.11.34.02	Identify the purposes of bathing
11.11.34.03	Identify general guidelines to follow when bathing the resident including measures for privacy and safety
11.11.34.04	Demonstrate a bedbath and identify actions which promote comfort for the resident while being bathed
11.11.34.05	Identify situations in which perineal care should be given
11.11.34.06	Discuss how whirlpool baths are given
11.11.34.07	Demonstrate how shower and tub baths are given
11.11.35.00	Perform additional personal care skills I-11, M-11, R-12
11.11.35.01	State why, when, and how a backrub is given
11.11.35.02	Discuss and demonstrate how to dress and undress the resident
11.11.35.03	Name 3 assistive devices that may be used in dressing/undressing a resident
11.11.35.04	Discuss the care of the resident's hair
11.11.35.05	State why it is important to comb resident's hair every day
11.11.35.06	Discuss the care of a residents fingernails and toenails
11.11.35.07	Discuss shaving the resident's facial hair



Common Core Provide special skin care 11.11.36.00 I-11, M-11, R-12 Describe the signs and symptoms of a decubitus ulcer 11.11.36.01 Identify locations which are prone to ulcer formation 11.11.36.02 Describe the conditions which predispose the elderly to decubitus ulcer 11.11.36.03 formation Discuss and identify ways to prevent decubitus ulcers 11.11.36.04 Describe measures to provide skin care and comfort for the 11.11.36.05 incontinent resident Care for urinary elimination needs and urinary catheters 11.11.37.00 I-11, M-11, R-12 Locate on a chart, name, and briefly state the function of the kidneys, 11.11.37.01 ureters, urethra and bladder Identify ways in which urinary function may be altered in the aged 11.11.37.02 person Correctly use the terms for urinating, urine, and void 11.11.37.03 Describe normal and abnormal appearance of urine and abnormal 11.11.37.04 sensation while urinating



List signs and symptoms of urinary tract infections and actions the NA



11.11.37.05

Common Core	
11.11.37.10	Identify observations one should make about the catheterized resident
11.11.37.11	Identify the correct use of a leg bag to collect catheterized urine
11.11.37.12	Describe an external catheter and identify measures for using it correctly
11.11.37.13	Identify causes of incontinence
11.11.37.14	Describe measures to provide skin care and comfort for the incontinent resident
11.11.37.15	Describe measures to prevent incontinence
11.11.38.00	Perform toileting procedures I-11, M-11, R-12
11.11.38.01	Identify and demonstrate correct procedure for assisting a resident with a bedpan or fracture pan
11.11.38.02	Identify the correct procedure for assisting the resident with using a urinal
11.11.38.03	Identify the correct procedure for assisting the resident with using the bedside commode or toilet
11.11.39.00	Measure intake and output I-11, M-11, R-12
11.11.39.01	Identify what is meant by fluid balance, fluid imbalance, and effect of aging on fluid balance
11.11.39.02	Identify the reasons for measuring intake and output. State the abbreviations
11.11.39.03	Identify and demonstrate the procedure for measuring and recording fluid intake
11.11.39.04	Identify what is meant by the terms: force fluids, restrict fluids and NPO
11.11.39.05	Discuss and demonstrate the procedure for measuring output



Common Core	
11.11.40.00	Demonstrate knowledge of functions of the bowel I-11, M-11, R-12
11.11.40.01	Discuss the normal structure and function of the lower intestinal tract
11.11.40.02	Identify the terms used for bowel elimination
11.11.40.03	Describe the normal and abnormal appearance of feces
11.11.40.04	Identify affects of aging on function of the lower intestinal tract
11.11.40.05	Identify signs which may indicate that a resident is constipated
11.11.40.06	Identify measures which may be part of a resident's care in order to prevent or relieve constipation
11.11.40.07	Identify what is meant by fecal impaction
11.11.40.08	Identify symptoms which might indicate that a resident has a fecal impaction
11.11.40.09	Identify causes of fecal impaction in the elderly
11.11.40.10	Identify the role of the NA in preventing fecal impaction
11.11.40.11	Identify causes of incontinence and measures for caring for the resident who is incontinent of feces
11.11.41.00	Discuss developmental tasks, stereotype myths, and basic facts and statistics about the elderly I-11, M-11, R-12
11.11.41.01	List the developmental tasks associated with the aging process

List basic facts and statistics about the elderly

List some of the stereotypes about aging which are prevalent in our



11.11.41.02

11.11.41.03

society

Common Core

11.11.42.00	Recognize basic emotional needs of residents I-11, M-11, R-12
11.11.42.01	Identify basic emotional needs of residents in a LTCF
11.11.42.02	Describe ways that the NA can use to meet the emotional needs of the resident
11.11.42.03	List ways that the NA can change their own response to the resident's behavior
11.11.43.00	Recognize factors which promote rest and relaxation I-11, M-11, R-12
11.11.43.01	Discuss factors which influence the residents' sleep
11.11.43.02	Identify actions the NA may take to help the resident sleep
11.11.44.00	Recognize sexuality in aging I-11, M-11, R-12
11.11.44.01	Identify some of the physical changes which may affect sexuality in the aging person
11.11.44.02	Identify some of the social aspects of sexual function in the elderly
11.11.44.03	Discuss appropriate NA response to perceived sexual advances from a resident
11.11.45.00	Demonstrate knowledge of special needs populations I-11, M-11, R-12
11.11.45.01	Define mental health
11.11.45.02	Identify the general characteristics of persons who are mentally ill
11.11.45.03	Define mental retardation
11.11.45.04	Identify components of program services for residents who may be mentally retarded



Common Core	
11.11.45.05	List methods to identify and utilize the resident's strengths as a way to reinforce appropriate behavior or reduce or eliminate inappropriate behavior
11.11.45.06	Identify behaviors the NA should use while caring for residents who are mentally retarded or mentally ill
11.11.46.00	Care for the confused or withdrawn resident I-11, M-11, R-12
11.11.46.01	Identify some of the possible causes of confusion
11.11.46.02	Identify symptoms which indicate a resident may be confused
11.11.46.03	Identify psychosocial implications of confusion for the resident (how the person feels and interacts with others)
11.11.46.04	Identify ways in which some of the causes of confusion may be minimized
11.11.46.05	Identify behaviors which may be seen in the person who is withdrawn
11.11.46.06	Identify some causes of withdrawn behavior
11.11.46.07	Identify acceptable therapeutic interventions for the confused and/or withdrawn resident
11.11.46.08	Identify appropriate NA responses to combative behavior
11.11.47.00	Care for the dying resident I-11, M-11, R-12
11.11.47.01	Identify some of American society's attitudes about death
11.11.47.02	Identify the 5 stages of reaction to approaching death. For each, identify behaviors the dying person might demonstrate
11.11.47.03	Identify the emotional needs of the resident experiencing death
11.11.47.04	Describe responses by the nurse aide to emotional needs of the dying resident



Common Core Identify emotions which may be experienced in response to the death 11.11.47.05 of others State the importance of and ways to acknowledge the death of a 11.11.47.06 resident in a LTCF Identify physical sign of approaching death 11.11.47.07 Identify care measures which the NA should provide for the dying 11.11.47.08 resident Discuss the recognition and consideration of the family 11.11.47.09 Identify the meaning for the term "post-mortem care" and the steps 11.11.47.10 involved in providing post-mortem care Identify the impact spiritual beliefs have on the emotional needs of 11.11.47.11 residents Prevent complications of immobility 11.11.48.00 I-11, M-11, R-12 List the negative effects of immobility on the body 11.11.48.01 Describe the activities to be encouraged in order that residents in 11.11.48.02 LTCFs may participate in their own self-care whenever possible Identify the purpose, safety precautions and who may assist a resident 11.11.48.03 during range of motion exercises Describe the differences between active and passive range of motion 11.11.48.04 Identify the procedures used to assist with active and passive ROM 11.11.48.05 exercises for all joints Identify measures which help prevent complications of immobility 11.11.48.06 Identify and demonstrate body mechanics used in the LTCF 11.11.48.07 Identify and demonstrate transfer techniques for dependent residents 11.11.48.08



Common Core	
11.11.48.09	Identify and demonstrate appropriate body alignments for residents in the sitting and lying position
11.11.49.00	Recognize components of bowel and bladder program I-11, M-11, R-12
11.11.49.01	Identify the goals of a bowel and bladder program
11.11.49.02	Identify factors which go into preparing a bowel/bladder training program
11.11.49.03	Identify the steps involved in bowel training
11.11.49.04	Identify steps involved in bladder training
11.11.50.00	Demonstrate knowledge of prosthetic devices I-11, AD
11.11.50.01	Describe the purpose and types of prosthetic devices
11.11.50.02	Apply prosthetic devices with direction of charge nurse
11.11.50.03	Store prosthetic devices appropriately when they are not in use
11.11.51.00	Recognize the right to participation in activities, to voice complaints, and make personal choices I-11, M-11
11.11.51.01	Identify ways to help the resident be active in family, groups, self-care, and facility sponsored activities
11.11.51.02	Describe methods of assisting the resident to vote
11.11.51.03	Define the term "personal choices" and state examples of the resident's personal choices
11.11.51.04	Discuss ways to enforce facility rules/regulations which govern resident conduct
11.11.51.05	Demonstrate techniques to help the resident resolve grievances or complaints



Common Core	
11.11.51.06	Describe the basic role of the Ohio Ombudsman Program and its relationship to the LTCF
11.11.52.00	Recognize the right to privacy I-11, M-11, R-12
11.11.52.01	Describe methods of providing the resident with privacy
11.11.53.00	Recognize the right to confidentiality I-11, M-11, R-12
11.11.53.01	Discuss what is meant by and define confidentiality
11.11.53.02	State examples of ways to maintain confidentiality
11.11.54.00	Identify right to freedom from abuse or unnecessary physical and chemical restraints I-11, M-11, R-12
11.11.54.01	Define abuse, mistreatment and neglect and give examples
11.11.54.02	State examples of ways the NA can prevent abuse, mistreatment and neglect
11.11.54.03	Identify need/how to report any instances of abuse, mistreatment or neglect
11.11.54.04	Define chemical and physical restraint
11.11.54.05	Discuss examples of unnecessary physical or chemical restraints
11.11.54.06	Discuss ways to eliminate the need for chemical or physical restraint of the resident
11.11.55.00	Recognize the right of proper care and security of personal possessions I-11, M-11, R-12
11.11.55.01	Describe ways to ensure the security of the resident's possessions

Recommended Assessment: The State of Ohio establishes the requirements for Ohio's Nurse Aide Training and Competency Evaluation program. Students completing these requirements are qualified to take the exam provided by the Ohio Department of Health. Passing the exam allows the student to work as a "State Tested" Nursing Assistant.



### **ELECTIVES**

Students will concentrate in three of the elective areas listed below. In addition, a required quarter of independent study with a career focus, a mentorship/internship at a worksite or post secondary enrollment is required.

### Diagnostic Procedures

11.12.01.00	Perform basic EKG I-12, M-AD, R-BD, LL
11.12.01.01	Demonstrate knowledge of the various aspects and facets of Health Care:  *See Unit: Medical Terminology  *See Unit: Medical Law & Ethics  *See Unit: Career Exploration  *See Unit: Infection Control and Hazards Management  *See Unit: Safety and Infection Control  *See Unit: Employability Skills  *See Unit: The Medical Database
11.12.02.00	Demonstrate knowledge of the circulatory/cardiovascular system I-11, M-AD, R-BD, LL  * See Unit: Anatomy/Physiology - Circulatory System
11.12.03.00	Perform circulation checks I-11, M-AD, R-BD, LL
11.12.03.01	Identify pulse sites
11.12.03.02	Take vital signs
11.12.03.03	Observe and report s/s of impaired circulation
11.12.03.04	Use doppler
11.12.04.00	Perform the EKG recording I-12, M-AD, R-BD, LL
11.12.04.01	Identify procedure changes with infants, amputees, dressings, etc.
11.12.04.02	Demonstrate knowledge of equipment maintenance
11.12.04.03	Identify cardiovascular pharmacology-drugs affecting EKG recording



Electives	
11.12.04.04	Perform a 12 lead EKG recording
11.12.04.05	Mount a 12 lead EKG
11.12.04.06	Clean EKG equipment
11.12.04.07	Recognize basic EKG rhythms and artifacts
11.12.04.08	Demonstrate holter monitor application
11.12.05.00	Demonstrate knowledge of cardiac pathology I-11, M-AD, R-BD, LL  * See Unit: Anatomy/Physiology - Circulatory System
11.12.06.00	Demonstrate knowledge of dysrhythmia basics I-12, M-AD, R-BD, LL
11.12.06.01	Identify calculations of heart rate P-R intervals, QRS duration
11.12.06.02	Identify basics of dysrhythmia-sinus rhythm, bradycardia, tachycardia PVC's, A-V block, etc.
11.12.07.00	Demonstrate knowledge of additional cardiac procedures I-12, M-AD, R-BD, LL
11.12.07.01	Explain Stress Testing
11.12.07.02	Explain Ambulatory EKG
11.12.07.03	Explain Echocardiography
11.12.07.04	Explain angiography
11.12.07.05	Explain Nuclear Medicine
11.12.07.06	Explain PTCA (percutaneous transluminal coronary angioplasty)
11.12.08.00	Perform CPR I-11, M-11 * See competency 11.10.01



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-	 ives

11.12.09.00	Assist with radiological procedures I-12, M-AD, R-BD, LL
11.12.09.01	Prepare and instruct patients on procedures
11.12.09.02	Develop X-rays
11.12.09.03	Identify and follow Occupational Safety and Health Administration (OSHA) regulations
11.12.10.00	Assist with pulmonary function testing I-12, M-AD, R-BD, LL
11.12.10.01	Perform spirometry tests
11.12.10.02	Set up and administer oxygen
11.12.10.03	Administer aerosol therapy
11.12.10.04	Explain pulse oximetry
11.12.11.00	Assist with allergy testing I-12, M-AD, R-BD, LL
11.12.11.01	Prepare tray
11.12.11.02	Perform scratch test
11.12.11.03	Perform patch test
11.12.12.00	Measure and record visual acuity using the Snellen chart I-12, M-12
11.12.13.00	Measure and record visual acuity using the Jaegar chart I-12, M-12
11.12.14.00	Measure and record color vision using the Ishahara chart I-12, M-12
11.12.15.00	Measure hearing with the audiometer I-12, M-12



## Laboratory Procedures

11.13.01.00	Demonstrate knowledge of infection control and laboratory safety I-12, M-AD, R-BD, LL
11.13.01.01	Identify lab safety policies and procedures
11.13.01.02	Discuss modes of disease transmission
11.13.01.03	Explain biohazards
11.13.01.04	Identify phlebotomy safety procedures
11.13.01.05	Demonstrate universal precautions
11.13.01.06	Identify OSHA standards and regulations
11.13.01.07	Identify CLIA standards and procedures
11.13.01.08	Demonstrate knowledge of infection control
11.13.01.09	Demonstrate isolation methods
11.13.01.10	Discuss first aid procedure for fainting
11.13.02.00	Perform drug screen testing I-12, M-AD, R-BD, LL
11.13.02.01	Demonstrate safe use of equipment
11.13.02.02	Read and record results properly
11.13.02.03	Discuss chain of command
11.13.03.00	Perform tuberculosis testing I-12, M-AD, R-BD, LL
11.13.03.01	Administer and interpret Tine test
11.13.03.02	Administer and interpret Mantoux test



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Electives	
11.13.04.00	Assist with specimen collection and handling I-12, M-AD, R-BD, LL
11.13.04.01	Maintain laboratory supplies
11.13.04.02	Obtain specimens for cultures (e.g. body fluids)
11.13.04.03	Identify specimens
11.13.04.04	Evaluate suitability of specimen
11.13.04.05	Culture, grow and transfer specimen
11.13.04.06	Transport bacteria to outside lab
11.13.04.07	Collect and handle sputum
11.13.04.08	Collect and handle urine (e.g. clean catch and sterile specimens, 24 hour urine, three jar test)
11.13.04.09	Collect and handle stool specimen (e.g. for occult blood, ovum and parasites)
11.13.04.10	Use sterile technique when performing a culture
11.13.05.00	Demonstrate proper technique to perform venipuncture and capillary puncture I-12, M-AD, R-BD, LL
11.13.05.01	Identify collection equipment and supplies
11.13.05.02	Identify interfering substances
11.13.05.03	Identify additives
11.13.05.04	Identify special precautions
11.13.05.05	Identify puncture sites
11.13.05.06	Identify sterile and antiseptic site

Perform preparation of site



11.13.05.07

Electives Perform capillary puncture with lancet 11.13.05.08 Perform capillary puncture with autolet 11.13.05.09 Identify effect of tourniquet, heat, hand squeezing on collection 11.13.05.10 Perform needle insertion and withdrawal 11.13.05.11 Identify order of draw using a vacutainer and a syringe 11.13.05.12 Perform venipuncture on manikin arm using syringe 11.13.05.13 Perform venipuncture on manikin arm using vacutainer 11.13.05.14 Demonstrate patient identification procedures 11.13.05.15 Label specimen properly when collected 11.13.05.16 Demonstrate requisitioning 11.13.05.17 11.13.05.18 Process specimen 11.13.05.19 Transport specimen Identify legal implications 11.13.05.20 Identify time constraints 11.13.05.21 Perform microbiological identifications 11.13.06.00 I-12, M-AD, R-BD, LL Use the microscope 11.13.06.01 Obtain a throat culture 11.13.06.02 Identify bacteria using differential agar 11.13.06.03 Identify bacteria using gram stains 11.13.06.04



	105
Electives	
11.13.07.00	Perform routine urinalysis and urine diagnostics I-12, M-AD, R-BD, LL
11.13.07.01	Perform complete urinalysis (microscopic and chemical)
11.13.07.02	Perform tests for pregnancy
11.13.07.03	Perform chemical urinalysis
11.13.08.00	Perform manual and automated test of complete blood count (CBC) I-12, M-AD, R-BD, LL
11.13.08.01	Perform hematocrit (Hct)
11.13.08.02	Perform hemoglobin determination (hgB)
11.13.08.03	Perform red blood cell count (RBC)
11.13.08.04	Perform white blood cell count (WBC)
11.13.08.05	Perform white blood cell differential (Diff)
11.13.08.06	Perform erythrocyte sedimentation rate (ESR)
11.13.09.00	Perform serological tests I-12, M-AD, R-BD, LL
11.13.09.01	Prepare serum
11.13.09.02	Perform serum blood chemistries
11.13.09.03	Perform ABO and Rh typing according to CLIA regulations
11.13.09.04	Perform monospot test
11.13.09.05	Perform serum pregnancy test (HCG)
Laboratory Technology	
11.14.01.00	Perform urinalysis procedures



11.14.01.01

Describe proper urine collection and preservation methods

Electives	
11.14.01.02	Perform a physical examination of urine
11.14.01.03	Perform a chemical examination of urine
11.14.01.04	Identify urine sediment
11.14.01.05	Perform a microscopic analysis of urine sediment
11.14.01.06	Perform tablet tests on urine samples to determine presence of glucose acetone
11.14.01.07	Perform urine pregnancy tests
11.14.01.08	Perform drug screens on urine samples using the On-Trak test kit
11.14.02.00	Perform hematology procedures
11.14.02.01	Perform a manual hemoglobin
11.14.02.02	Perform a micro-hematocrit
11.14.02.03	Perform and calculate blood cell counts using a hemacytometer
11.14.02.04	Perform red and white blood cell counts using the unopette system
11.14.02.05	Make and stain a blood smear
11.14.02.06	Perform a white blood cell differential count using normal healthy cells
11.14.02.07	Perform an erythrocyte sedimentation rate (ESR)
11.14.02.08	Operate an instrument capable of analyzing blood cell counts, such as a QBC II system
11.14.03.00	Perform biochemistry procedures
11.14.03.01	Operate desktop chemistry instruments as are used in a physician's office laboratory



Electives	
11.14.03.02	Perform chemistry tests most frequently performed in small laboratories
11.14.03.03	Perform clinical chemistry calculations
11.14.03.04	Operate a chemistry instrument integrated with a laboratory information system
11.14.03.05	Calibrate chemistry instruments
11.14.03.06	Perform quality control procedures
11.14.03.07	Plot control results on a graph and interpret graphed results
11.14.03.08	Perform simple laboratory mathematical calculations
11.14.03.09	Perform measurements using the metric system
11.14.04.00	Perform immunology procedures
11.14.04.01	Perform ABO blood types
11.14.04.02	Perform RH blood types
11.14.04.03	Perform slide tests for infectious mononucleosis
11.14.04.04	Perform rapid plasma reagin (RPR) test for syphilis
11.14.04.05	Perform slide tests for rheumatoid arthritis
11.14.05.00	Perform microbiology procedures
11.14.05.01	Operate a binocular microscope
11.14.05.02	Identify stained bacteria
11.14.05.03	Make a bacteriological smear
11.14.05.04	Perform and interpret gram stains



Electives	
11.14.05.05	Transfer bacteria from one culture medium to another
11.14.05.06	Inoculate and incubate culture media
11.14.05.07	Collect throat and urine specimens for bacterial culture
11.14.05.08	Perform a rapid test for Group A Streptococcus
11.14.05.09	Identify bacteria using differential culture media, biochemistry tests and gram stains
11.14.06.00	Perform quality control procedures
11.14.06.01	Explain the importance of quality control in the laboratory
11.14.06.02	Establish a quality assurance program for the operation of laboratory equipment
11.14.06.03	Perform calibration of laboratory instruments
11.14.06.04	Perform quality control testing for all laboratory procedures performed
11.14.06.05	Maintain records of control results
11.14.06.06	Use graph techniques to display quality control results
11.14.06.07	Store quality results on disk or on tape
11.14.07.00	Perform specimen processing procedures
11.14.07.01	Complete a daily log of specimens received .
11.14.07.02	Process blood and body fluids
11.14.07.03	Centrifuge blood samples and separate serum/plasma
11.14.07.04	Label all transfer tubes properly and completely
11.14.07.05	Prepare specimens for shipment to a reference laboratory
11.14.07.06	Instruct patients on how to properly collect laboratory specimens



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11.14.08.00	Perform cardiopulmonary resuscitation (CPR)
11.14.08.01	Obtain and maintain CPR certification
11.14.08.02	Administer mouth-to-mouth rescue breathing
11.14.08.03	Administer CPR to infants and children
11.14.08.04	Administer CPR to adults
11.14.08.05	Administer care for obstructed airways for infants, children, and adults
11.14.09.00	Perform first aid procedures
11.14.09.01	Recognize signs and symptoms in a patient who is about to faint
11.14.09.02	Perform first aid measures for the fainting or nauseous patient
11.14.09.03	React to a patient who has a petit mal or grand mal seizure
11.14.09.04	Administer first aid to control bleeding
11.14.10.00	Perform electrocardiograms and measure vital signs
11.14.10.01	Perform and mount a 12 lead electrocardiogram
11.14.10.02	Measure and record oral temperature
11.14.10.03	Measure and record radial and jugular pulse rates
11.14.10.04	Count and record respiration
11.14.10.05	Measure and record blood pressure using proper cuff size
11.14.11.00	Maintain personal safety and hygiene
11.14.11.01	Demonstrate proper handwashing technique
11.14.11.02	Maintain clean uniforms



Electives	
11.14.11.03	Practice proper care and grooming of hair and nails for health care professionals
11.14.11.04	Practice safe pipetting techniques
11.14.11.05	Dispose of contaminated equipment
11.14.11.06	Clean spills and dispose of broken glass
11.14.11.07	Operate an autoclave
11.14.11.08	Maintain a clean workplace
11.14.11.09	Perform sterilization procedures in the laboratory
11.14.12.00	Comply with OSHA's Bloodbourne Pathogen Rule of June 1992
11.14.12.01	Comply with all safety measures discussed in the Bloodbourne Pathogen Rule
11.14.12.02	Discuss safety program established for the laboratory
11.14.12.03	Obtain Hepatitis B vaccinations
11.14.12.04	Wear uniform and personal protective clothing in the laboratory
11.14.13.00	Demonstrate isolation procedures
11.14.13.01	Identify the different types of isolation
11.14.13.02	Demonstrate procedures for disposal of soiled or contaminated materials
11.14.13.03	Demonstrate general principles of asepsis
11.14.13.04	Discuss nosocomial infections and their implications to all patients
11.14.13.05	List and perform protocol for obtaining a sterile site



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Electives	
11.14.14.00	Perform biochemistry procedure
11.14.14.01	Operate desktop chemistry instruments as are used in a physician's office laboratory (J&J DT 60, Vision, Reflotron, Cholestech, Serolyzer)
11.14.14.02	Perform chemistry tests most frequently performed in small laboratories (lipids, glucose, $K+$ )
11.14.14.03	Perform clinical chemistry calculations (VLDL, LDL, Cholesterol/HDL ratio)
11.14.14.04	Operate a chemistry instrument integrated with a laboratory information system
11.14.14.05	Calibrate chemistry instruments
11.14.14.06	Perform quality control procedures
11.14.14.07	Plot control results on a graph and interpret graphed results
11.14.14.08	Perform measurements using the metric system
11.14.15.00	Perform immunology procedures
11.14.15.01	Perform ABO blood types
11.14.15.02	Perform RH blood types
11.14.15.03	Perform slide tests for infectious mononucleosis
11.14.15.04	Perform rapid plasma reagin (RPR) test for syphilis
11.14.15.05	Perform slide tests for rheumatoid arthritis
11.14.16.00	Perform microbiology procedures
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11.14.16.01	Operate a binocular microscope

Perform and interpret gram stains



11.14.16.02

Electives	
11.14.16.03	Transfer bacteria from one culture medium to another
11.14.16.04	Inoculate and incubate culture media
11.14.16.05	Collect throat and urine specimens for bacterial culture
11.14.16.06	Perform a rapid test for Group A Streptococcus
11.14.16.07	Identify bacteria using differential culture media, biochemistry tests and gram stains
11.14.17.00	Perform quality control procedures
11.14.17.01	Explain the importance of quality control in the laboratory
11.14.17.02	Establish a quality assurance program for the operation of laboratory equipment
11.14.17.03	Perform calibration of laboratory instruments
11.14.17.04	Perform quality control testing for all laboratory procedures performed
11.14.17.05	Maintain records of control results
11.14.17.06	Use graph techniques to display quality control results
11.14.17.07	Store quality control results on disk or on tape
11.14.18.00	Perform specimen processing procedures
11.14.18.01	Complete a daily log of specimens received
11.14.18.02	Process blood and body fluids
11.14.18.03	Centrifuge blood samples and separate serum/plasma
11.14.18.04	Label all transfer tubes properly and completely
11.14.18.05	Prepare specimens for shipment to a reference laboratory



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11.14.18.06	Instruct patients on how to properly collect laboratory specimens
11.14.19.00	Comply with CDC, NCCLS, CAP, ASCP and OSHA
11.14.19.01	Practice universal precautions when handling potentially hazardous specimens
11.14.19.02	Utilize safety shields, eye protection, and gloves when exposing body fluids
11.14.19.03	Wear personal protective clothing in the laboratory
11.14.19.04	Dispose of sharps correctly
11.14.19.05	Demonstrate proper handwashing techniques
11.14.19.06	Identify and label biohazardous specimens

## Phlebotomy Technology

(Mult 114, Mult 115)

11.15.01.00	Identify collection equipment, reagents and recite interfering factors that can be implicated in blood collections
11.15.01.01	List and describe equipment needed to collect blood specimens
11.15.01.02	Explain precautions and equipment needed to collect blood from a newborn infant
11.15.01.03	Identify anticoagulants, preservatives, and gels the vacuum tube color-codes
11.15.01.04	Evaluate anticoagulants, preservatives, and gels used in blood collection
11.15.01.05	Describe laboratory specimens and the phlebotomist's role in collecting, transporting these specimens to the laboratory
11.15.01.06	Describe substances that can interfere in the analysis of blood analytes



11.15.02.00	Requisition, process and transport specimens
11.15.02.01	List information required on laboratory requisition or computer order entry
11.15.02.02	Operate data processing and computer systems utilized in the laboratory
11.15.02.03	Describe the importance of adhering to time constraints and temperature needs
11.15.02.04	Discuss precautions for verbal test orders and verbal reporting
11.15.02.05	Describe routine and special procedures for transporting and processing specimens
11.15.02.06	Describe the use of transport and/or communication systems for specimens and data
11.15.02.07	Discuss routine "log-in" sheets and as manual back-up for computer systems
11.15.02.08	Describe specimen accession, identification and retention systems
11.15.02.09	Inspect and evaluate specimen suitability for the analysis requested
11.15.02.10	Centrifuge and aliquot specimen for distribution to the appropriate laboratory section
11.15.02.11	Prepare smears, droplets or mounts of the specimen for analysis
11.15.02.12	Evaluate results of quality control techniques in specimen collection
11.15.03.00	Perform micropuncture
11.15.03.01	Identify equipment used in micropuncture collections
11.15.03.02	Identify equipment used for infant and neonatal collection
11.15.03.03	Determine the optimal sites for skin punctures on infants, children and adults



Electives	
11.15.03.04	Decontaminate puncture sites
11.15.03.05	Collect a blood sample using the unopette system
11.15.03.06	Collect a blood specimen using capillary tubes
11.15.04.00	Perform venipuncture
11.15.04.01	Demonstrate protocol for patient identification
11.15.04.02	Perform a venipuncture using the vacuum system
11.15.04.03	Perform a venipuncture using the syringe system
11.15.04.04	Perform a venipuncture using a butterfly
11.15.04.05	Collect blood using multiple draw technique in the correct order of draw
11.15.05.00	Perform special collection procedures
11.1 <b>5.05.00</b> 11.15.05.01	Perform special collection procedures  Collect blood cultures
11.15.05.01	Collect blood cultures
11.15.05.01 11.15.05.02	Collect blood cultures  Set up and perform a glucose tolerance test
11.15.05.01 11.15.05.02 11.15.05.03	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens
11.15.05.01 11.15.05.02 11.15.05.03 11.15.05.04	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens  Describe procedure for collection of timed specimens  Describe procedure for collection and transport of specimens requiring
11.15.05.01 11.15.05.02 11.15.05.03 11.15.05.04 11.15.05.05	Collect blood cultures  Set up and perform a glucose tolerance test  Describe procedure for collection of blood bank specimens  Describe procedure for collection of timed specimens  Describe procedure for collection and transport of specimens requiring special handling



Electives	
11.15.06.03	Discuss reasons for having to collect blood from the hand, wrist or ankle
11.15.06.04	Describe the Allen test and the procedure for an arterial draw
11.15.07.00	Perform quality control procedure
11.15.07.01	Distinguish/perform quality control measures when collecting blood specimens
11.15.07.02	Utilize safety equipment and procedures in specimen collection
11.15.07.03	Document procedures for "common" accidents occurring during specimen collection
11.15.07.04	Identify patients and correctly label their specimens
11.15.07.05	Determine when to perform recollections
11.15.07.06	Determine when to reject a specimen
11.15.08.00	Perform point of care testing
11.15.08.01	Perform glucose testing at the bedside
11.15.08.02	Perform modified Duke and Ivy bleeding time using a surgicutt
11.15.08.03	Perform bedside hemoglobin testing
11.15.08.04	Perform or observe sweat chloride testing .
11.15.09.00	Demonstrate knowledge of infection control and observe all safety precautions
11.15.09.01	Identify policies and procedures for maintaining laboratory safety
11.15.09.02	Discuss modes of transmission of infection and methods for prevention
11.15.09.03	Identify and properly label biohazardous specimens



Electives	
11.15.09.04	Describe safety measures that are followed when collecting blood specimens
11.15.09.05	Discuss in detail the universal precautions outlined by Center for Disease Control and OSHA
11.15.09.06	Discuss and perform proper infection control techniques, such as hand washing, gowning, gloving, masking and double-bagging
11.15.09.07	Define and discuss the term nosocomial infection
11.15.09.08	Describe appropriate procedures for disposing of used or contaminated needles
11.15.10.00	Perform a phlebotomy internship at a health care facility
11.15.10.01	Complete the prerequisites for eligibility to participate in the internship
11.15.10.02	Complete a minimum of 120-160 clinical hours
11.15.10.03	Complete 200 unassisted multiple draw venipuncture
11.15.10.04	Complete 200 unassisted successful micropuncture or finger sticks
11.15.10.05	Participate in laboratory operations including filing, processing, accessioning, centrifugation, and computer operations
11.15.10.06	Devise and implement appropriate methods of workload organization
11.15.10.07	Adhere to the standards of ethics and professionalism
11.15.10.08	Adhere to all safety regulations as established by the clinical site
11.15.10.09	Participate in community health fairs to obtain necessary numbers of micropuncture



**Electives** Perform/observe pediatric and neonatal services 11.15.11.00 Observe or perform specimen collection procedures on neonates 11.15.11.01 Observe or perform specimen collection procedures from infants in 11.15.11.02 neonatal ICU Observe or perform specimen collection procedures on pediatric 11.15.11.03 patients Perform phlebotomy collections in a variety of settings 11.15.12.00 Observe or perform specimen collection procedures in the Emergency 11.15.12.01 Room Observe or perform specimen collection procedures in each of the 11.15.12.02 intensive care units (ICU) listed: Coronary (CICU), Medical (MICU), and surgical (SICU) Perform specimen collection procedures on the maternity/obstetrics 11.15.12.03 patients Perform specimen collection procedures on medical and surgical 11.15.12.04 patients Perform specimen collection procedures on geriatric patients 11.15.12.05 Perform specimen collection procedures on psychiatric patients 11.15.12.06

# 11.15.13.00 Perform special collection procedures 11.15.13.01 Observe arterial blood gas collections 11.15.13.02 Collect specimens requiring special transport 11.15.13.03 Collect specimens from patients in isolation 11.15.13.04 Collect blood cultures 11.15.13.05 Conduct glucose tolerance test



Electives	
11.15.13.06	Collect timed specimens including post prandial glucose, peak and trough antibiotic/drug assays
11.15.13.07	Perform blood bank specimen collection procedures
11.15.14.00	Perform difficult draw procedures
11.15.14.01	Observe and perform line draws such as heparin lock, CVC, etc.
11.15.14.02	Collect specimens using a syringe and a butterfly
11.15.14.03	Observe or perform capillary blood gas collection
11.15.14.04	Observe or perform hand/wrist and ankle/foot collections
11.15.14.05	Observe or perform NIDA collection
11.15.14.06	Observe or perform specimen collection procedures on patients receiving IV therapy, blood transfusions, dialysis therapy
11.15.15.00	Take a national phlebotomy registry examination
11.15.15.01	Complete eligibility requirements to take a national phlebotomy registry examination
11.15.15.02	Complete application process to take the phlebotomy registry examination
11.15.15.03	Sit for a national phlebotomy examination
Recommended Ass Scientists	sessment: National Exam of International Academy of Phlebotomy



# Sterilization and Disinfection-Minor Surgery and Instrumentation

11.16.01.00	Demonstrate knowledge of sterilization and disinfection I-11, R-12, M-AD, LL
11.16.01.01	State the purpose of sanitization
11.16.01.02	Explain the principle involved in sterilizing materials in the autoclave, and explain why the length of time necessary for autoclaving varies according to type of article being sterilized
11.16.01.03	List three principles that should be followed when the autoclave is loaded
11.16.01.04	State the qualities of good wrapper for use in the autoclaving process
11.16.01.05	Explain the function of sterilization indicators, and list two types of indicators that may be used
11.16.01.06	Explain how incomplete sterilization can occur when using the autoclave
11.16.01.07	List the materials that are best sterilized in a dry heat oven
11.16.01.08	Identify four guidelines for operating the dry heat oven
11.16.01.09	Identify the steps for preparing infectious waste for disposal by infectious waste service
11.16.01.10	List four types of disinfectants commonly used in medical practice and explain basic guidelines for using chemical disinfectant
11.16.02.00	Demonstrate knowledge of surgical asepsis I-12, M-AD, R-BD, LL
11.16.02.01	Identify four types of procedures that require the use of surgical asepsis
11.16.02.02	List five guidelines that should be observed during a sterile procedure in order to maintain surgical asepsis



11.16.03.00	Identify instruments used in minor surgery I-12, M-AD, R-BD, LL	
11.16.03.01	State the function of transfer forceps	
11.16.03.02	List four guidelines for using transfer forceps	
11.16.03.03	Identify and explain the uses of the scalpel	
11.16.03.04	Identify and explain the uses of the operating scissor	
11.16.03.05	Identify and explain the uses of the suture scissor	
11.16.03.06	Identify and explain the uses of the bandage scissor	
11.16.03.07	Identify and explain the uses of the dissecting scissor	
11.16.03.08	Identify and explain the uses of the thumb forcep	
11.16.03.09	Identify and explain the uses of the splinter forcep	
11.16.03.10	Identify and explain the uses of the dressing forcep	
11.16.03.11	Identify and explain the uses of the tissue forcep	
11.16.03.12	Identify and explain the uses of the mosquito hemosta	
11.16.03.13	Identify and explain the uses of the straight hemostat	
11.16.03.14	Identify and explain the uses of the sponge forceps	
11.16.03.15	Identify and explain the uses of the hemostatic forceps	
11.16.03.16	Identify and explain the uses of the needle holder	
11.16.03.17	Identify and explain the uses of the towel clamp	
11.16.03.18	Identify and explain the uses of the retractor	
11.16.03.19	Identify and explain the uses of the probe	
11.16.03.20	Identify and explain the uses of the vaginal speculum	



Electives	
11.16.03.21	Identify and explain the uses of the uterine dressing forcep
11.16.03.22	Identify and explain the uses of the uterine curette
11.16.03.23	Identify and explain the uses of the uterine sound
11.16.03.24	Identify and explain the uses of the uterine tenaculum
11.16.04.00	Demonstrate knowledge of the types of wounds I-11, R-12, M-AD
11.16.04.01	Explain the difference between a closed and an open wound
11.16.04.02	Give an example of one type of closed wound
11.16.04.03	Give an example of four types of open wounds
11.16.04.04	Explain the healing process
11.16.05.00	Demonstrate knowledge of sutures I-12, M-AD, R-BD, LL
11.16.05.01	Explain the method of measuring the diameter of suture material
11.16.05.02	Describe the different types of sutures
11.16.05.03	Categorize suturing needles according to their type of point and shape
11.16.06.00	Demonstrate knowledge of assisting with minor surgery I-12, M-AD, R-BD, LL
11.16.06.01	Explain the purpose of and the procedure for the Sebaceous cyst removal
11.16.06.02	Explain the purpose of and the procedure for the incision and drainage of localized infection
11.16.06.03	Explain the purpose of and the procedure for the needle biopsy
11.16.06.04	Explain the purpose of and the procedure for the ingrown toenail removal
11.16.06.05	Explain the purpose of and the procedure for the Colposcopy removal



11.16.06.06	Explain the purpose of and the procedure for the Cervical Punch biopsy
11.16.06.07	Explain the purpose of and the procedure for the Cryosurgery
11.16.06.08	Explain the principles underlying each step in minor surgery
11.16.07.00	Demonstrate knowledge of sterile dressing change I-11, R-12, M-AD, R-BD, LL
11.16.07.01	List the functions of a dressing
11.16.07.02	State the functions of a bandage and list the guidelines that should be observed when applying a bandage
11.16.07.03	Identify the common types of bandages
11.16.07.04	Explain the use of tubular gauze

# Intro to Medications/Pharmacology

11.17.01.00	Order and store medications I-12, M-AD, R-BD, LL
11.17.01.01	Check inventory stock
11.17.01.02	Contact supplier
11.17.01.03	Rotate stock
11.17.01.04	Process order forms and invoice according to Drug Enforcement Agency (DEA) guidelines
11.17.01.05	Store medications properly
11.17.01.06	Prepare expired medication for disposal
11.17.01.07	Dispose of medications properly complying with government regulations



11.17.02.00	Calculate dosage according to physician's orders I-12, M-AD, R-BD, LL
11.17.02.01	Use Physician's Desk Reference (PDR) and Facts Comparisons
11.17.02.02	Calculate oral dosage
11.17.02.03	Calculate parenteral dosage
11.17.02.04	Calculate pediatric dosage
11.17.02.05	Calculate intravenous dosage and rate of flow
11.17.03.00	Obtain and administer medications according to physician's orders I-12, M-AD, R-BD, LL
11.17.03.01	Identify patient
11.17.03.02	Verify patient allergies
11.17.03.03	Use reference materials
11.17.03.04	Verify accuracy of medical order
11.17.03.05	Calculate dosages
11.17.03.06	Prepare and administer oral medications
11.17.03.07	Identify correct anatomical sites
11.17.03.08	Administer medications
11.17.03.09	Document medication administration
11.17.03.10	Document patient response to medications
11.17.04.00	Evaluate response to medication I-12, M-AD, R-BD, LL
11.17.04.01	Identify possible adverse reactions to medications
11.17.04.02	Assess patient/client reaction to medications



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11.17.04.03	Report adverse reactions to appropriate sources
11.17.04.04	Document patient/client response to medication
11.17.05.00	Dispense and instruct patients on use of medications I-12, M-AD, R-BD, LL
11.17.05.01	Provide written instructions
11.17.05.02	Demonstrate use of medications (e.g., side effects, adverse effects, interactions with other medications)
11.17.05.03	Prepare written prescription for physician's signature
11.17.05.04	Develop and maintain standing orders according to physician's protocol (e.g., prescription refill)
11.17.06.00	Record medications I-12, M-AD, R-BD, LL
11.17.06.01	Log schedule of drugs on patient's chart
11.17.06.02	Log schedule of drugs on medication log
11.17.06.03	Log control/lot number and expiration date
11.17.06.04	Obtain countersignature of physician

## General Office Procedures

11.18.01.00	Maintain medical records I-12, M-12, R-AD, LL
11.18.01.01	File information alphabetically or numerically according to office protocol
11.18.01.02	Retrieve patient record from file
11.18.01.03	Prepare cross-reference file
11.18.01.04	Process and file incoming medical reports



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Electives

<b>11.18.02.00</b> .	Explain office procedures and protocol I-12, M-12, R-AD, LL
11.18.02.01	Prepare, edit, and distribute office procedure brochure
11.18.02.02	Advise patient of office hours
11.18.02.03	Advise patient of billing structure
11.18.02.04	Review patient bill of rights
11.18.03.00	Operate computer I-11, M-12, R-AD/BD, LL
11.18.04.00	Operate office equipment I-12, M-12, R-AD/BD, LL
11.18.04.01	Operate transcriber
11.18.04.02	Operate calculator
11.18.04.03	Operate checkwriter
11.18.04.04	Operate typewriter
11.18.04.05	Operate copy machine
11.18.04.06	Operate postage meter
11.18.04.07	Operate fax machine
11.18.04.08	Operate multiline telephone system
11.18.04.09	Operate credit card impresser
11.18.05.00	Write and process office communications I-12, M-12, R-AD/BD, LL
11.18.05.01	Compose and type business correspondence
11.18.05.02	Type letters from dictating machine
11.18.05.03	Compose and keyboard interoffice memos



Electives	
11.18.05.04	Complete appropriate consent forms
11.18.05.05	Address envelopes
11.18.05.06	Process incoming mail
11.18.06.00	Open and close office I-12, M-WS, R-AD/BD, LL
11.18.06.01	Check for safety hazards
11.18.06.02	Maintain environmental service
11.18.06.03	Pull patients charts
11.18.06.04	Check examining rooms for cleanliness and supplies
11.18.06.05	File completed records in locked cabinets
11.18.06.06	Place money in safe
11.18.06.07	Activate alarm system
11.18.06.08	Secure office equipment
11.18.06.09	Secure and lock doors
11.18.07.00	Demonstrate telephone techniques according to office protocol I-12, M-WS, R-AD/BD, LL
11.18.07.01	Receive calls
11.18.07.02	Apply oral communication skills
11.18.07.03	Receive, evaluate and record telephone messages
11.18.07.04	Write legibly
11.18.07.05	Obtain and record messages from recording device
11.18.07.06	Obtain and record messages from answering service



Screen calls
Transfer calls
Obtain information for doctor to return calls
Handle emergency calls
Make arrangements for patient's admission to hospital
Make referrals
Phone new and refill prescriptions to pharmacy
Schedule appointments according to office protocol I-12, M-WS, R-AD/BD, LL
Write appointments legibly
Prepare appointments calendar
Record appointments
Prepare appointment cards
Maintain recall system
Confirm appointments
Make referral appointments for patients
Prepare patient chart for office visit according to office protocol I-12, M-WS, R-AD/BD, LL
Obtain preliminary information
Prepare folder
Prepare charge slip



Electives	
11.18.10.00	Calculate charges on charge slip according to office protocol I-12, M-WS, R-AD/BD, LL
11.18.10.01	Apply mathematical skills
11.18.10.02	Itemize fee for each service rendered (e.g., using superbill, pegboard, computer statement)
11.18.10.03	Operate calculator
11.18.11.00	Maintain administrative office supplies according to office protocol I-12, M-WS, R-AD/BD
11.18.11.01	Inventory office supplies
11.18.11.02	Prepare purchase requisitions
11.18.11.03	Order office supplies
11.18.11.04	Receive office supplies
11.18.11.05	Store office supplies
11.18.12.00	Maintain patient accounts according to office protocol I-12, M-AD/BD
11.18.12.01	Apply mathematical skills
11.18.12.02	Apply basic bookkeeping fundamentals
11.18.12.03	Prepare ledger
11.18.12.04	Record charges and credits
11.18.12.05	Total charges using calculator
11.18.12.06	Interpret and explain doctor's fees
11.18.12.07	Compose itemized statement
11.18.12.08	Compose collection letter
11.18.12.09	Track accounts receivable and prepare aging reports



Patient Care Skills	
(Mult 126)	
11.19.01.00	Demonstrate knowledge of patient care skills in relationship to the nursing profession I-12, M-12, LL
11.19.01.01	Compare jobs description of PCA to long term care NA
11.19.01.02	Recognize differences between acute care/chronic care
11.19.01.03	Respect lines of authority as shown by an organizational chart
11.19.01.04	Function under standards of care as stated by Ohio Board of Nursing
11.19.02.00	Work safely in an acute care institution I-12, M-AD
11.19.02.01	Identify categories of occupational and safety hazards
11.19.02.02	Distinguish illness from injury
11.19.02.03	State how toxic and/or infectious substances enter the body
11.19.02.04	Protect self in a health care setting
11.19.02.05	Reduce hazards in a health care setting
11.19.02.06	Read MSDS sheet
11.19.03.00	Practice universal precautions I-12, M-AD
11.19.03.01	Explain each element of the chain of infection and its contribution to infection
11.19.03.02	Recognize signs and symptoms of infection
11.19.03.03	Distinguish between medical asepsis and surgical asepsis
11.19.03.04	Wash hands correctly
11.19.03.05	Perform isolation techniques



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11.19.03.06	Identify principles of surgical asepsis
11.19.03.07	Prepare a sterile field
11.19.03.08	Add sterile items to a sterile field
11.19.03.09	Pour a sterile solution
11.19.03.10	Don sterile gloves
11.19.04.00	Provide wound care and irrigations I-12, M-AD
11.19.04.01	Discuss the body's response during each stage of the wound-healing process
11.19.04.02	Explain factors that impair or promote normal wound healing
11.19.04.03	Administer a wound irrigation
11.19.04.04	Remove sutures or staples
11.19.04.05	Demonstrate care of a wound drainage system
11.19.04.06	Apply dry, pressure, wet-to-dry, and synthetic dressing
11.19.04.07	Assess CVP site and change dressing
11.19.04.08	Discuss purposes of binders, bandages and slings
11.19.04.09	Apply bandages
11.19.04.10	Apply binders
11.19.04.11	Apply a sling
11.19.04.12	Assess IV site



11.19.05.00	Care for the preoperative and postoperative patient I-12, M-AD
11.19.05.01	Explain the rationale of postoperative exercises
11.19.05.02	Instruct patient in postoperative exercises
11.19.05.03	Identify benefits and risks associated with shaving a surgical site
11.19.05.04	Prepare a surgical site
11.19.05.05	Prepare a postoperative patient unit
11.19.05.06	Complete a preoperative check list
11.19.05.07	Perform postoperative care
11.19.06.00	Apply hot and cold therapy I-12, M-AD
11.19.06.01	Identify the effects of heat and cold on the body
11.19.06.02	Identify the risks to clients related to hot and cold applications
11.19.06.03	Explain common guidelines used to protect clients who receive hot and cold applications
11.19.06.04	Apply dry heat applications, hot moist compresses, warm soaks, dry cold applications, moist cold applications
11.19.06.05	Administer a warm sitz bath
11.19.06.06	Place a hypothermia blanket
11.19.07.00	Provide ostomy care I-12, M-AD
11.19.07.01	Identify types of bowel and bladder diversions
11.19.07.02	Explain differences in color and consistency of drainage based on location of an ostomy



Electives	
11.19.07.03	Describe methods used to maintain skin integrity during pouching of ostomies
11.19.07.04	Pouch an enterostomy
11.19.07.05	Irrigate a colostomy
11.19.07.06	Drain and rinse an ostomy appliance
11.19.08.00	Care for client with a nasogastric/nasointestinal tube or a gastric tube I-12, M-AD
11.19.08.01	Demonstrate appropriate technique for administering bolus tube feeding
11.19.08.02	Demonstrate appropriate technique for administering continuous tube feeding
11.19.08.03	Demonstrate appropriate care of exit site for gastrostomy/jej unostomy tube
11.19.08.04	Verify tube placement for a feeding tube
11.19.08.05	Remove a nasogastric/intestinal tube
11.19.08.06	Irrigate a nasogastric tube
11.19.08.07	Calculate I & O for patient on gastric lavage/gavage
11.19.09.00	Meet urinary elimination needs of patient I-12, M-AD
11.19.09.01	Identify factors that alter normal voiding
11.19.09.02	Measure and record intake and output
11.19.09.03	Insert a straight or indwelling catheter
11.19.09.04	Perform catheter care
11.19.09.05	Obtain catheterized specimen for residual urine



Electives	
11.19.09.06	Perform catheter irrigation
11.19.09.07	Remove retention catheter
11.19.09.08	Apply condom catheter
11.19.10.00	Meet bowel elimination needs of patient I-12, M-AD
11.19.10.01	Describe factors that impede normal bowel elimination
11.19.10.02	Insert a rectal tube
11.19.10.03	Remove fecal impaction digitally
11.19.10.04	Administer an enema
11.19.11.00	Collect specimens I-12, M-AD
	(Competencies as listed in 11.13 Laboratory Procedures)
11.19.12.00	Care for patients on oxygen therapy I-12, M-AD
11.19.12.01	Discuss indications for oxygen therapy
11.19.12.02	Recognize hazards of oxygen therapy
11.19.12.03	Use oxygen safety guidelines
11.19.12.04	Distinguish between different means of oxygen administration
11.19.12.05	Apply a nasal cannula, an oxygen mask
11.19.12.06	Provide pulmonary toilet
11.19.12.07	Identify mechanisms of tracheal suctioning
11.19.12.08	Apply principles of wound care in the management of tracheostomy suctioning
11.19.12.09	Apply pulse oximetry



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11.19.12.10	Understand pulse oximetry values and bring to RN's attention
11.19.12.11	Care for a patient with chest tubes
11.19.13.00	Care for patient receiving cardiac monitoring I-12, M-AD
	(Competencies as listed in 11.12 Diagnostic Procedures)
11.19.14.00	Provide neurological assessment of patient I-12, M-AD
11.19.14.01	Assess level of consciousness
11.19.14.02	Assess pupil response
11.19.14.03	Assess motor response
11.19.14.04	Assess reflexes
11.19.14.05	Recognize deviations from normal

Recommended Assessment: Skill evaluation at Columbus State Community College. Mastery of all competencies in combination with:

11.2 Diagnostic Procedures

11.3 Laboratory Procedures

meets requirements of Mult 126.

### Homemaker-Home Health Aide

(Mult 122)

11.20.01.00	State why homemaker-home health aide services are needed I-12, M-12
11.20.01.01	State the reasons for providing service in the home
11.20.01.02	Explain the purposes and goals of homemaker-home health aide service
11.20.01.03	Identify clients' rights, as mandated by federal, state and local laws
11.20.01.04	Describe what can and cannot be done in the role of homemaker-home health aide



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Electives	•
11.20.01.05	Identify general skills and specific skills that this course will teach
11.20.01.06	Describe the increase in number of homemaker-home health aide service programs since the United States since homemaker-home health aide services first began
11.20.01.07	Express expectations and responsibilities with respect to the training course
11.20.02.00	Describe the role of the homemaker-home health aide I-12, M-12
11.20.02.01	Describe meaningfully how the role of the homemaker-home health aide meshes with the rest of the home care team
11.20.02.02	Identify the special responsibilities of the homemaker-home health aide on the home care team
11.20.02.03	Describe those features and changes in home and family life to which the homemaker-home health aide should be alert
11.20.02.04	Describe the tasks and responsibilities of the homemaker-home health aide in a variety of home care situations
11.20.02.05	Define the qualities of a successful homemaker-home health aide
11.20.03.00	Understand how agencies make services available to clients and families I-12, M-12
11.20.03.01	Describe an agency or program that provides homemaker-home health aide services, its purpose and organization
11.20.03.02	Describe how an agency makes homemaker-home health aide services available by establishing procedures and policies, by developing plans of care bases on need and by professional assessments, and by providing supervision and guidance
11.20.03.03	Describe responsibility of the agency to homemaker-home health aides and staff



11.20.04.00	Communicate effectively with the client I-12, M-12
11.20.04.01	Identify the ways in which people communicate with each other
11.20.04.02	Describe the difference between verbal and nonverbal communication
11.20.04.03	Describe how communicative skill of the homentaker-home health aide helps assure the provision of quality in-home care to clients and families
11.20.04.04	Describe methods for achieving good communication with others
11.20.05.00	Understand basic human needs I-12, M-12
11.20.05.01	Describe basic needs which homemaker-home health aide service might be needed
11.20.05.02	Describe the importance of the family to individuals and society
11.20.05.03	Identify ways in which individuals and families differ
11.20.05.04	Express reasons the homemaker-home health aide must show respect for clients' cultural and lifestyle differences
11.20.05.05	Describe how people may feel when basic needs are not met
11.20.06.00	Understand and work with children I-12, M-12
11.20.06.01	Identify the basic physical and emotional needs of children
11.20.06.02	Identify the basic growth stages of childhood and some behaviors typical of each
11.20.06.03	Recognize common reactions of children and other family members to illness or stress and how they might be handled
11.20.06.04	Describe family situations in which homemaker-home health aide service may be helpful
11.20.06.05	Identify ways in which the homemaker-home health aide can establish and maintain relationships with children and family members



Electives	
11.20.06.06	Distinguish between discipline and punishment and between appropriate and inappropriate discipline
11.20.06.07	Recognize changes or events in a family that the homemaker-home health aide should report to the supervisor
11.20.06.08	Recognize common signs of child abuse
11.20.07.00	Understand and work with older clients I-12, M-12
11.20.07.01	Discuss attitudes and beliefs about older persons
11.20.07.02	Identify myths about the aging process
11.20.07.03	Demonstrate understanding and sensitivity to differences in older clients
11.20.07.04	Describe general characteristics, particular needs-physical, financial and emotional-and problems of older clients
11.20.07.05	Describe how homemaker-home health aides help in meeting these needs
11.20.07.06	Identify attitudes and lifestyles which promote positive mental and physical health for elderly people
11.20.07.07	Discuss the impact of race, ethnicity, class and poverty on health
11.20.07.08	Identify methods of preventing dependency and excessive disability, and maximizing rehabilitation
11.20.07.09	Identify types and evident of elder abuse which might occur in the home
11.20.07.10	Identify organizational policies and state or local laws regarding suspected elder abuse, neglect and mistreatment



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-	CCI	ives

11.20.08.00	Understand and work with clients who are ill I-12, M-12
11.20.08.01	Identify the principal goals in working with clients who are ill
11.20.08.02	Identify some of the ways clients, family members and significant others may react to illness
11.20.08.03	Recognize changes in behavior of individuals or informal caregivers that require professional assessment or re-evaluation
11.20.08.04	Recognize the homemaker-home health aide's relationship and responsibility to the client, family members, informal caregivers, the agency and the care team
11.20.09.00	Understand and work with clients with disabilities I-12, M-12
11.20.09.01	Distinguish between and identify the relatedness of a disability and an illness
11.20.09.02	Encourage an appropriate level of independence for the particular client
11.20.09.03	Demonstrate a general knowledge of the problems and needs of clients with developmental disabilities
11.20.09.04	Identify the principal goals in working with clients who are disabled and their families
11.20.09.05	Help families accept and cope with the stress factors involved in caring for persons with disabilities
11.20.09.06	Help families understand capabilities and limitations of clients with disabilities
11.20.09.07	Help individuals develop to the best of their abilities through carrying out plans of care developed jointly by specialists, the individuals and their families
11.20.09.08	Describe the nature and general characteristics of Alzheimer's Disease as a progressive illness



11.20.10.00	Understand and work with mental illness I-12, M-12
11.20.10.01	Identify some of the characteristics of mental health
11.20.10.02	Describe some of the concepts and misconceptions about mental illness
11.20.10.03	Describe how the homemaker-home health aide's contribution can be helpful to individuals, families and to the mental health team
11.20.10.04	Recognize that emotional conflict and stress can affect the physical health of an individual
11.20.11.00	Maintain a clean, safe and healthy environment I-12, M-12
11.20.11.01	Recognize the importance of a clean and well-maintained home environment to health and safety, and its relationship to the plan of care
11.20.11.02	Identify the appropriate home maintenance role and tasks a homemaker-home health aide usually performs
11.20.11.03	Perform basic cleaning, housekeeping and maintenance tasks
11.20.11.04	Choose appropriate procedures, equipment and supplies, and improvise for these when supplies, equipment, and monetary resources are limited
11.20.11.05	Recognize when it is and when it is not appropriate to obtain the assistance of others in the household with home maintenance
11.20.11.06	Instruct others in the home to assist with housecleaning and maintenance tasks
11.20.12.00	Provide the client with food and adequate nutrition I-12, M-12
11.20.12.01	Identify how foods and nutrition contribute to physical, social and psychological health
11.20.12.02	Discuss how the care plan is followed in carrying out food-related responsibilities, including modified diets



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Electives	
11.20.12.03	List factors influencing individual and family food habits
11.20.12.04	Plan meals that provide for adequate nutrition for individuals and families on both general and modified diets
11.20.12.05	Shop for, plan, prepare and serve food attractively and economically, with attention to eating habits and preferences
11.20.12.06	Prepare and serve food for the elderly, the ill and persons on modified diets
11.20.12.07	Properly feed those who cannot feed themselves
11.20.12.08	Store food safely
11.20.13.00	Manage time, energy, money and other resources I-12, M-12
11.20.13.01	Identify ways to conserve time and energy while providing service
11.20.13.02	Identify resources within the family
11.20.13.03	Identify what responsibility for resource management may be expected of the homemaker-home health aide
11.20.13.04	Describe community resources available to individuals and families
11.20.14.00	Provide home management when disease is present I-12, M-12
11.20.14.01	Define and discuss the nature of infectious diseases
11.20.14.02	Describe major routes of disease transmission
11.20.14.03	Identify major transmissible diseases
11.20.14.04	Identify precautions that must be taken to prevent the spread of disease in household maintenance and personal care activities
11.20.14.05	Demonstrate the safe disposal of body of body wastes



11.20.14.06

Demonstrate the skill of handwashing

Electives	
11.20.14.07	Demonstrate how to cover the nose and mouth when sneezing or coughing
11.20.14.08	Teach family caregivers to prevent the spread of disease
11.20.14.09	Describe, in general terms, acquired immunodeficiency syndrome (AIDS)
11.20.15.00	Provide care for the dying patient I-11, M-12
11.20.15.01	Define hospice and relate the history of hospice
11.20.15.02	List the stages of grief
11.20.15.03	Recognize and report the signs and symptoms of impending death
11.20.15.04	Provide comfort and support of the dying patient
11.20.15.05	Recognize personal emotions regarding death and dying
11.20.16.00	Identify body systems, disorders and diseases I-11, M-12
11.20.16.01	Identify the basic body systems as a basis for giving personal care
11.20.16.02	Identify body functions as they influence the application of personal care skills
11.20.17.00	Observe body functions and report observations I-11, M-12
11.20.17.01	Demonstrate ability to accurately measure body temperature, and rates of pulse and respiration
11.20.17.02	Recognize and observe the common signs and symptoms of illness
11.20.17.03	Report and record signs and symptoms of illness and other pertinent information in a meaningful way



Ε	lec	cti	ves	S
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11.20.18.00 Care for the client in bed I-11, M-11, R-12 Give personal care to meet client's needs for elimination, hygiene, 11.20.18.01 grooming, skin care, foot and mouth care Position the client in bed using principles of good body mechanics 11.20.18.02 Make an occupied bed 11.20.18.03 Identify environmental dangers to the client in bed 11.20.18.04 11.20.18.05 Demonstrate procedures for the following: \*bedpan \*urinal \*positioning \*skincare \*shampoo in bed \*bedbath \*oral hygiene \*nail care \*backrub \*making an occupied bed Care for the client not confined to bed 11.20.19.00 I-11, M-11, R-12 11.20.19.01 Assist in transfer techniques and ambulation to help the client move to and from a bed, chair and tub Identify safety hazards in the client's environment 11.20.19.02 Prepare for and assist in personal care activities related to hygiene and 11.20.19.03 grooming Demonstrate assisting in the following: 11.20.19.04 \*ambulation \*transfer from bed to chair \*shampoo, sink or tub \*sponge, rub or shower bath Observe the client's ability to take medications and report 11.20.20.00 observations I-12, M-12 Explain why homemaker-home health aides do not administer 11.20.20.01 medications

medications by clients



11.20.20.02

Discuss the role of homemaker-home health aides in the use of

Observe and report how medications are taken by clients
Watch for, observe and report any unusual/unintended reactions to medications
Suggest methods of avoiding medication error
Store medication correctly
Encourage client to dispose of old medications correctly and report disposal
Provide rehabilitation I-11, M-11, R-12
Assist clients with range of motion exercises
Assist clients with disabilities to perform the activities of daily living
Demonstrate assisting with the following: *active and passive range of motion exercises *ambulation using two of three types of assistive device such as crutches, walkers, and various kind of canes
Provide health and emergency procedures I-12, M-12
Apply dressings using a non-sterile technique
Apply both moist or dry, hot and cold treatments
Weigh person and record
Respond appropriately in an emergency
Apply knowledge and skills during a 17-20 hour practicum I-12, WS
Dress properly
Assemble needed supplies



11.20.23.03	Review the record-ascertain the plan of care associated with assigned tasks; consult staff members if necessary
11.20.23.04	Establish a relationship by being sensitive to client needs and respecting the family's lifestyle
11.20.23.05	Provide services specified in the care plan, using the following learned skills and knowledge:  *organize work to conserve time and energy  *work safely and effectively  *leave the home or client's areas neat and clean  *Respect and encourage the independence of the client
11.20.23.06	Help the family accept and carry out needed care and treatment as found in the plan of care
11.20.23.07	Report and record activities performed, observe conditions and any changes and problems not previously known to the agency

Recommended Assessment: The "Model Curriculum and Teaching Guide for the Instruction of the Homemaker-Home Health Aide", developed by the National Homecaring Council, qualifies the student to take the Home Health Aide examination for certification.

organizations in the community

productive manner to provide needed services

Know what procedure to follow if an emergency arises

Work with the home care team or supervisor in an effective and

Recognize and discuss the need for services provided by other

### **Disability Education**

11.20.23.08

11.20.23.09

11.20.23.10

11.21.01.00	Identify etiology of disabling conditions and diseases I-12, M-12
11.21.01.01	Research and document known and suspected causes of disabling conditions/diseases
11.21.01.02	Investigate accepted methods of diagnosis of disabilities
11.21.01.03	Identify customary and alternative methods of treatment



11.21.02.00	Identify general characteristics of disabilities I-12, M-12
11.21.02.01	Identify general physical characteristics of disabling conditions
11.21.02.02	Identify general psychomotor characteristics of disabling conditions
11.21.02.03	Identify general psychosocial characteristics of disabilities
11.21.02.04	Identify general cognitive characteristics of disabilities
11.21.02.05	Communicate needs and development
Community Health (Mult 172)	and Safety
11.22.01.00	Obtain safety certifications I-12, M-12, LL
11.22.01.01	Complete Advanced First Aid training according to American Red Cross standards
11.22.01.02	Complete Professional Rescuer-level (Course C) CPR training according to American Heart Association or American Red Cross standards
11.22.01.03	Complete Preventing Disease Transmission training according to American Red Cross standards
11.22.01.04	Complete HIV/AIDS training according to American Red Cross standards
11.22.01.05	Complete Community Water Safety training
11.22.01.06	Complete Adapted Aquatics training
11.22.02.00	Demonstrate knowledge of personal health and safety issues I-12, M-12, LL
11.22.02.01	Practice community safety habits
11.22.02.02	Identify classifications of medications



Recommended Assessment: Certification in all areas through American Red Cross and for American Heart Association.

### Craft/Leisure Skills

]	11.23.01.00	Learn techniques and apply craft skills I-12, M-12, R-AD/BD, LL
]	11.23.01.01	Develop a file on each craft
]	11.23.01.02	Perform the craft
1	11.23.01.03	Teach the craft
1	11.23.01.04	Problem solve the craft activity
1	11.23.02.00	Learn techniques and practice activity skills I-12, M-12, R-AD/BD, LL
1	11.23.02.01	Develop a file on each activity
1	11.23.02.02	Perform the activity
]	11.23.02.03	Teach the activity
1	11.23.02.04	Problem solve the activity
1	11.23.03.00	Develop individual treatment skills to develop, deliver, and document appropriate client activities I-12, M-12, R-AD/BD, LL
1	11.23.03.01	Perform assessment skills
1	11.23.03.02	Develop a patient care plan
1	11.23.03.03	Provide individualized activity program
1	11.23.03.04	Document patient's participation and progress in activity program
1	11.23.03.05	Prepare program evaluation



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11.23.03.06	Make relevant program recommendations
11.23.03.07	Prepare program summaries
11.23.04.00	Demonstrate activity analysis and adaptation skills I-12, M-12, R-AD/BD, LL
11.23.04.01	Perform activity and function analysis
11.23.04.02	Demonstrate activity adaptation skills
11.23.04.03	Demonstrate appropriate safety measure in activity adaptations

### Human Development

11.24.01.00	Demonstrate knowledge of human reproduction and sexuality I-12, M-12, R-AD/BD, LL
11.24.01.01	Identify anatomy and physiology of the male and female human reproductive systems
11.24.01.02	Identify the stages of pregnancy and the corresponding stages of fetal development
11.24.01.03	Identify genetic disorders that can be traced to heredity
11.24.01.04	Identify ways specific birth defects can be prevented
11.24.02.00	Identify development during life stages I-12, M-12, R-AD/BD, LL
11.24.02.01	List physical, social, mental, emotional, and psychomotor characteristics of persons through the following life stages:  a) newborn/infant through toddler  b) preschool  c) school years K-6, ages 5-12  d) adolescent

young adult, to age 40 years middle adult, 40-60 years of age older adult, over 60 years of age



e) f) g)

11.24.03.00	Identify and discuss issues related to death/dying I-12, M-12, R-AD/BD, LL
11.24.03.01	Define physiological (functions) of death
11.24.03.02	Locate community agencies/programs that assist persons with death/dying needs

### Surgical Technology

11.25.01.00	Demonstrate knowledge of surgical technology program organization
11.25.01.01	Describe safety procedures
11.25.01.02	Describe health care facilities
11.25.01.03	Describe hospital organization and management
11.25.01.04	Describe operating room personnel
11.25.01.05	List surgical team members
11.25.01.06	Identify aspects of the physical environment of the surgical suite
11.25.01.07	Outline interdepartmental relations
11.25.01.08	Discuss communication and rapport
11.25.01.09	Introduce the history of surgery
11.25.01.10	Describe surgery as it is today
11.25.01.11	Ethical, moral and legal responsibilities
11.25.01.12	Class discussion of surgical conscience



11.25.02.00	Discuss physiology of organs as they relate to surgical repair procedures
11.25.02.01	Explain the surgical procedures performed on the skin
11.25.02.02	Describe surgical procedures performed on the skeletal system
11.25.02.03	After required reading and instruction, describe the surgical procedures of the nervous system with 85% accuracy based on test/quiz
11.25.02.04	List and describe the surgical procedures of the special senses
11.25.02.05	Describe the surgical procedures of the heart
11.25.02.06	Describe the surgical procedures of the respiratory system
11.25.02.07	Define the surgical procedures associated with the digestive system
11.25.02.08	Describe the surgical procedures of the urinary system
11.25.02.09	Describe the surgical procedures of the reproductive organs
11.25.03.00	Demonstrate principles of sanitation, sterilization, and disinfection
11.25.03.01	List the necessary factor for infection
11.25.03.02	Identify and describe the physical and chemical methods used to protect patients and workers from invasion by pathogenic microorganisms
11.25.04.00	Identify wound healing
11.25.04.01	Identify how tissue reacts to trauma
11.25.04.02	Describe the healing process
11.25.05.00	Demonstrate knowledge of principles of pharmacology
11.25.05.01	Review measurements and basic arithmetic



Electives	
11.25.05.02	Demonstrate ability to properly mix drugs in operating room setting
11.25.05.03	Define general terminology associated with the pharmacological use of drugs in the operating room
11.25.05.04	Identify the principles of drug use in the care of the surgical patient
11.25.05.05	Explain the principles of anesthesia administration
11.25.06.00	Demonstrate patient care concepts
11.25.06.01	Demonstrate an understanding of the surgical patient
11.25.06.02	Describe the physical, spiritual, and psychological patient needs
11.25.06.03	Demonstrate an understanding of the process used to obtain an informed consent for surgical procedure or treatment
11.25.06.04	Describe the identification process of the surgical patient
11.25.06.05	Prepare the operative site for surgery
11.25.06.06	Describe the application of thermoregulatory devices
11.25.06.07	Explain the principles of vital signs
11.25.06.08	Explain the principles of urinary catheterization and demonstrate the procedure
11.25.07.00	Provide asepsis in the surgical environment
11.25.07.01	Discuss the concepts of asepsis and demonstrate their application
11.25.07.02	Define surgical conscience
11.25.07.03	Identify the principles and demonstrate the techniques of sterilization
11.25.07.04	Identify principles and demonstrate techniques of disinfection and antisepsis



Electives	
11.25.08.00	Provide basic case preparation and procedures
11.25.08.01	Identify basic instruments by type, function, and name and demonstrate care, handling and assembly
11.25.08.02	Identify and prepare basic surgical supplies
11.25.08.03	Identify suture materials and stapling devices and demonstrate preparation and handling technique
11.25.08.04	Identify, describe, and handle the various surgical needles
11.25.08.05	Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure
11.25.09.00	Demonstrate surgical procedures
11.25.09.01	Demonstrate techniques of opening and preparing supplies and instruments needed for any operative procedure in a simulated laboratory setting with the maintenance of asepsis at all times
11.25.09.02	Describe the operative sequence in the opening and closing of a surgical wound
11.25.09.03	Discuss the relevant anatomy of surgical procedures listed in the Surgical Technology Textbook



### HEART of OHIO TECH PREP CONSORTIUM 1997

**Multi-Competency Health Technology Model** 

PART III: Tech Prep Secondary Competencies (Leveled)



### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

**PART IV:** Postsecondary Competencies

**Columbus State Community College** 





## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY

Student Outcomes	GER 101	GER 210	ENGL 101	*PSY 100	GER 103	*GER-105 ·	*PSY 240	SSCI1101	ENGL 102	GER 109	.GER 19J
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aspects of aging.			3.5 - 1. T.			7. 5. 5. 7.	, i				
2. Acknowledge the later years as a time of growth and development.	Ľ.	F, S		F			Н	Ŀ		Ľ	S
3. Assess adaptations to aging in terms of interpersonal relationships—— and personality————————————————————————————————————	F			T. C.		i.	Light			Ľ.	S
4. Support clients and families in the grieving process.							F				S
5. Address the psychosocial, biological and economic needs or older. Women in our culture!			が発生を				<b>L</b>	3.00°			S
<ol> <li>Relate the demographics of a target population to program planning needs.</li> </ol>						<u> </u>	A Company of the Comp				S
7. Adapt interpersonal communication skills to the needs of older adults:		FS							11	<b>T</b>	S
<ol> <li>Use appropriate interventions to facilitate problem solving; information and referral, advocacy, data gathering, problem identification, and care management.</li> </ol>					tr.	ir.		ĹĿ	ĹĿ.	ĹĿ	S
Demonstrate an understanding of legal rights of older adults related     in income sources, medical servicess discrimination, housing, and the     community services.							A STA				S
10. Assist older adults in selecting appropriate housing environments.		F, S				F			-		S
11. Demonstrate knowledge of diagnostic and assessment processes for sofganic and functional mental illness that may affect older adults 12.5.		FS					F				S
<ol> <li>Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.</li> </ol>											S
13. Use appropriate physical, social and mental health interventions along the continuum of well-elderly, of frail-elderly		Wee .			3.0	<u>4</u>					S
14. Think critically.	ī	F, S	Ľ	Ŀ	Ŀ	Ŀ	4	F	<u>.</u>	L	S
15 Solve problems.		F,S	( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )			L. L.		1	È	Œ.	S
16. Communicate effectively.	Ŀ	F, S	Ŀ	4	Ŀ	4	4	F	Ŧ	4	S
17. Demonstrate interpersonal skills.	A Property of	F,S	1	E T			E	1	H.	<b>L</b> \$	Š
18. Recognize the value of human diversity.	ír.	F,S	Ľ.	Ŀ	ഥ	í.	Ŀ	L	L	Ŀ	S
19. Demonstrate life management skills.	F		F. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.				F	1	L.	H	<b>⊘</b>

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3. Assess adaptations to aging in terms of interpersonal relationships, and personality.	S				S	S.					S
4. Support clients and families in the grieving process.	S	F			S	S					S
5. Address the psychosocial, biological and economic needs for older women in our culture	(1) (S) (1) (A)				S	S					S
6. Relate the demographics of a target population to program planning	S	-			S	S				F	S
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- 7. Adapt interpersonal communication skills to the needs of older:			大変	r.S	S	S)		H TO			Ŋ
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18. Recognize the value of human diversity.	S	í.		F, S	S	S	4	Ŀ		ĹĿ,	S
19. Demonstrate life management skills.	S				S.	S			3100	F	S

COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY

GERMATRX.DOC WIN97

Student Outcomes	GER 294	GER 207	GER 211	MATH 101	GER 295	GER 296	GER 201	HUM XXX	-COMM 110	GER 208	GET 206
1. Recognize biological, psychological, social and psychosexual aspects of agine.	S	1.0		W. A.	S	S				F.S.	F, S.
2. Acknowledge the later years as a time of growth and development.	S	F	F		S	S	Andrew Commence of the Commenc	10.00		F, S	F, S
3. Assess adaptations to aging in terms of interpersonal relationships. and personality.	S. 5.	T. Tr.	F. F.		ÓR.	S	or A	i de	Ŧ		F, S
4. Support clients and families in the grieving process.	S	н	ъ			S					
5. Address the psychosocial, biological and economic needs or older women women in our culture.	S				S	S	H		est o		F, S
6. Relate the demographics of a target population to program planning	S	ഥ			S	S	<u>.</u>			F, S	F, S
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11. Demonstrate knowledge of diagnostic and assessment processes for organic and functional mental illness that may affect older adults.	S	E			S = 5	S			y y La fina La	F.S.	
12. Demonstrate an understanding of the effects of social policy on organizational and operational structures as related to older adults.	S	<u> </u>			S	S	F				F, S
13. Use appropriate physical, social, and mental health interventions along the continuum of well-elderly to frail-elderly.	S	dure of	Light		S	S	<b>H</b>			F.S.	F, S
14. Think critically.	S	Ĭ.	íL.		S	S	ы	F	F	F, S	F, S
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18. Recognize the value of human diversity.	S	Ĺ.	Ĺ.,		S	s	Ļ	Ŧ	T.		F, S
19. Demonstrate life management skills.	S	H	F		S	S	F (2)		Teories (Section 1997)		



COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - GERONTOLOGY TECHNOLOGY

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### GERONTOLOGY TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT COLUMBUS STATE COMMUNITY COLLEGE

Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment
T. Recognize biological, psychological, social and psychosexual aspects of aging:	S	case studies, group problem; solving, practicum experience, practicum evaluation, conferences and forms by acency substryision, ethical
		discussions, practicum logs and forms, practicum simulations
2. Acknowledge the later years as a time of growth and development.	ပ	case studies, group problem-solving, practicum experience, practicum
		evaluation, conferences and forms by agency supervision, ethical
		discussions, practicum logs and forms, practicum simulations
-3. Assess adaptations to aging in terms of unterpersonal relationships and	senior friend case studies, exams, analysis of a creative work by an older adult	case studies; group problem solving, practicum experience, practicum
PCISOURIIIV, AMERICAN COMPANY OF THE PROPERTY		evaluations conferences and forms, by agency supervision, emical discussions; practicum logs, and forms, practicum simulations
4. Support clients and families in the grieving process.	simulation, case studies, exams	case studies, group problem-solving, practicum experience, practicum
		evaluation, conferences and forms by agency supervision, ethical
		discussions, practicum logs and forms, practicum simulations
s psychosocial, biological and economic needs or older women in	discussion of literature related to aging, exams, case studies	case studies, group problem solving, practicum experience, practicum
The control of the co	を受けていた。これでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年のでは、1900年の	discussions, practicum logs and forms, practicum simulations
6. Relate the demographics of a target population to program planning needs.	problem-solving, program planning	case studies, group problem-solving, practicum experience, practicum
		evaluation, conferences and forms by agency supervision, ethical
		discussions, practicum logs and forms, practicum simulations
7. Adapt interpersonal communication skills to the needs of older adults.	role play, exams, video taped inferviews, simulations, senior friend visits	case studies, group problem-solving, practicum experience, practicum
	· · · · · · · · · · · · · · · · · · ·	evaluation, conferences and forms by agency supervision, ethical
		discussions, practicum logs, and forms, practicum simulations.
8. Use appropriate interventions to facilitate problem solving, information and	role play, simulations, class discussion, exams, case studies, use of assessment	case studies, group problem-solving, practicum experience, practicum
referral, advocacy, data gathering, problem identification, and care	forms, concept mapping	evaluation, conferences and forms by agency supervision, ethical
management.		discussions, practicum logs and forms, practicum simulations
9. Demonstrate an understanding of legal rights of older adults related to income.		case studies, group problem-solving, practicum experience, practicum
Sources, medical services, discrimination, housing; and community services.	hearing case discussion	evaluation; conferences and forms by agency supervision; ethical
		Australias, practivami 10gs, and 10mms, practivam simulations
10. Assist otder addits in selecting appropriate nousing environments.	visitation reports, assessment and analysis of nousing environments	case studies, group problem-solving, practicum expertence, practicum
		discussions, practicum logs and forms, practicum simulations
11. Demonstrate knowledge of diagnostic and assessment processes for organic.	student reports, analysis of assessment tool, exams, case studies	case studies, group problem solving, practicum experience, practicum
t older adults.		evaluation; conferences and forms by agency supervision, ethical
5.6 <b>4</b>		discussions, practicum logs and forms, practicum simulations
12. Demonstrate an understanding of the circus of social policy on organizational	analysis and creation of social policies, exams, observation of legislative	case studies, group problem-solving, practicum experience, practicum
and operational structures as tenated to older admiss.	ndal nig	evaluation, conferences and forms by agency supervision, curical discussions, practicum logs and forms, practicum simulations
13: Use appropriate physical, social, and mental health interventions along the	case discussions, exams, role play.	interventions in practicum, case studies
	bire significant float	Constitution and the second se
14. I hink critically.	sen analysis, video tape, interpresonal skilis, evaluate social issues related to older people	case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum

case studies, practicum experience, practicum logs and notebook, evaluation of competencies for practicum.

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case studies, practicum experience, practicum logs and notebook,

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case studies, practicum experience, practicum logs and notebook, case studies, practicum experience, practicum logs and notebook,

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Methods of Summative Assessment

Methods of Formative Assessment





COLUMBUS STATE COMMUNITY COLLEGE
ASSESSMENT MATRIX - HEALTH INFORMATION MANAGEMENT TECHNOLOGY

Student Outcomes	Review health records for completeness and accuracy.     Verify components necessary	to ensure appropriateness and adequacy of health care documentation.  3. Maintain and compile secondary health information.  4. Apply legal principles, policies,	regulations, and standards for the control, use and dissemination of health information.  5. Collect, compute, analyze, interpret, and present statistical dua-related to health care services.	6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and statistical analysis.			man nent
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	Standart Ottleonies  1. Review health records for completeness and accuracy.  2. Verify components necessary to ensure appropriateness and adequacy of health care	documentation.  3. Maintain and compile secondary health information.  4. Apply legal principles, policies, regulations, and standards for the control, use and dissemination of health	information.  5 Collect, compute, analyze, interpret, and present statistical data related to health care services.  6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and	statistical analysis.  7 Review, retrieve, and compile health data for reimbursement quality assessment, patient care research, clinical registers, and other identified informational needs.  8. Apply principles of supervision and leadership and the tools used to effectively manneed.	human resources. 9. Think-critically. 10. Solve problems. 11. Communicate effectively. 12. Demonstrate interpersonal skills. 13. Recognize the value of human diversity. 14. Demonstrate life management skills.
• •	Sindant Ontcomes  1. Review health records for completeness and accuracy.  2. Verify components necess to ensure appropriateness adequacy of health care	documentation.  3. Maintain and compile secondary health inform  4. Apply legal principles, regulations, and standar the control, use and dissemination of health	information.  5 Collect, commercert, are deala related?  services  6. Code, classified diagnoses an the purpose standardization.	7 Review, rest health data I health data I quality assec research, cli other identii needs.  8. Apply princ and leaderst used leaderst	human resources. human resources. Think critically. Solve problems. II Communicate et l. Demonstrate int skills. II Recognize the v diversity. II Communicate the v diversity. II Communicate the v diversity. II Demonstrate life skills.

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Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment
i i i i i i i i i i i i i i i i i i i	chart reviews	clinical experience, seminar
Keylew health retailed to complement the major and adequacy of health care documentation.	computer applications	clinical experience, seminar
( h	computer applications	clinical experience, seminar
<ol> <li>Manian and compile seconds in the national standards for the control, use and dissemination of health</li> <li>Apply legal principles, policies, regulations, and standards for the control, use and dissemination of health</li> </ol>	case studies, computer applications	clinical experience, seminar
information.	case studies	clinical experience, seminar
5. Collect, compute, analyze, intelliging and procedures for the purpose of reimbursement, standardization, retrieval and 6. Code, classify, and index diagnoses and procedures for the purpose of reimbursement, standardization, retrieval and	case studies	clinical experience, seminar
etatistical analysis.		
7 Review, retrieve, and compile health data for reunbursement, quality assessment, patient care research, clinical	case studies, computer applications.	cumcal experience; seminar
sames and other identified informational needs.		
of Annia minimise of supervision and leadership and the tools used to effectively manage human resources.	case studies, portfolio, role-playing	clinical experience, seminar
of supervision and receiving and	case studies	clinical experience, seminar
9. Innk crucally.	case studies	clinical experience, seminar
10. Solive problems.	case studies	clinical experience, seminar
1. Communicate effectively.	case studies	clinical experience, seminar
12. Demonstrate interpersonal skills.	case studies	clinical experience, seminar
13. Recognize the value of human diversity	case studies	clinical experience, seminar
4. Demonstrate life management skills.		

COLUMBUS STATE COMMUNITY COLLEGE - HEALTH INFORMATION MANAGEMENT TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

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# COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MEDICAL CODING SPECIALIST CERTIFICATE

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ecords for c	nents of app	and index d	nation from	s vi	effectively. rerpersonal	value of hu life manage
Student Outcomes  1. Review health records for completeness and accuracy	2. Identify components of appropriate and adequate documentation of health care.	3 Code, classify, and index diagnosis and procedures for the purposes of reimbusement	<ol> <li>Abstract information from patient records to complete a claim properly.</li> </ol>	5. Think critically, 6. Solve problems.	7. Communicate effectively. 8. Demonstrate interpersonal skills.	9 Recognize the value of human diversity.  10. Demonstrate life management skills.
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# COLUMBUS STATE COMMUNITY COLLEGE MEDICAL CODING SPECIALIST CERTIFICATE METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

	Methods of Formative Assessment	Methods of Summative Assessment **
Review health records for completeness and accuracy.	Case studies, exams, peer review, discussion.	
2. Identify components of appropriate and adequate documentation of health care.		Cast studies, exams.
<ol> <li>Code, classify, and index diagnosis and procedures for the purposes of reimbusement</li> </ol>	Case studies; exams, peet review, discussion.	Cast studies, exams.
4. Abstract information from patient records to complete a claim properly.	Case studies, exams, peer review, discussion.	Cast studies, exams.
S. Think critically.	Case studies	N/A
6. Solve problems.	Case studies.	N/A
7. Communicate effectively.	In class participation	N/A
8. Demonstrate interpersonal skills.	In class participation	N/A
Recognize the value of human diversity.  O. Demonstrate life management skills.	In class participation In class participation	N/A N/A

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## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MEDICAL TRANSCRIPTION CERTIFICATE

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BIO 121								
CPT 101								
OADM 131								
MULT 101								
ENGL 101								
		<ol> <li>Demonstrate a knowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.</li> <li>Demonstrate a knowledge of surgery, radiology and pathology procedures.</li> </ol>	Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure.     Demonstrate a knowledge of the equipment used in transcribing dictation and the ability to use it.	UD III	enscriptionist is			
	Student Outcomes  1. Demonstrate a knowledge and usage of medical terminology as it relates to the science of medicine.	<ol> <li>Demonstrate a knowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.</li> <li>Demonstrate a knowledge of surgery, radiology and pathology procedures.</li> </ol>	Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure.     Demonstrate a knowledge of the equipment used in transcribing dictation a the ability to use it.	Merognize, discriminate, and chains inconsistent of the property while transcribing.      Demonstrate accuracy and productivity in transcribing dictation.	8. Demonstrate an understanding of intential curies and incorour reports by the properties of a transcriptionist. 9. Demonstrate an awareness of the environment in which the transcriptionist is employed. 10. Think critically.			
	usage of medic	ie diagnostic te al diagnosis an Irgery, radiolog	age, grammar, se equipment u	ductivity in tra	on medical en onist. the environmen		kilis an diversity.	nt skills.
	owiedge and 1 ie	owledge of th used in clinic owledge of su	oer English us :: :owledge of ti	E. uracy and pro	Demonstrate an understanding of in responsibilities of a transcriptionist. Demonstrate an awareness of the er employed.  Think critically.	s. effectively.	<ul><li>13. Demonstrate interpersonal skills</li><li>14. Recognize the value of human diversity</li></ul>	15. Demonstrate life managementskills.
	Syndem Ontonnes  1. Demonstrate a know science of medicine	onstrate a kno Scant results onstrate a kno	Demonstrate prope sentence structure. Demonstrate a kno the ability to use it.	Kecognize, discrin while transcribing. Demonstrate accu	S. Demonstrate an u responsibilities of responsibilities of Demonstrate an a employed.	<ol> <li>Solve problems.</li> <li>Communicate effectively.</li> </ol>	emonstrate in scognize the	emonstrate li
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## COLUMBUS STATE COMMUNITY COLLEGE MEDICAL TRANSCRIPTION CERTIFICATE METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

	Made of Counties Acesestian	Methods of Summative Assessment
Syndent Ontcomes  1. Demonstrate a knowledge and usage of medical terminology as it relates to the science of medicine.		N/A
2. Demonstrate a knowledge of the diagnostic techniques, indications, values and significant results used in clinical diagnosis and treatment of patients.	Exams.	N/A
<ol> <li>Demonstrate a knowledge of surgery, radiology and pathology procedures</li> </ol>	Exams	N/A
Demonstrate proper English usage, grammar, spelling, punctuation and sentence structure.	Exams, transcribing.	Exams, transcribing.
<ol> <li>Demonstrate a knowledge of the equipment used in transcribing dictation and the ability to use it.</li> </ol>	Exams, transcribing	Exams, transcribing
<ol> <li>Recognize, discriminate, and clarify inconsistencies and appropriately edit while transcribing.</li> </ol>		Exams, transcribing.
7. Demonstrate accuracy and productivity in transcribing dictation.	Transcribing. Peer review of assignments	Transuription exams.
8. Demonstrate an understanding of medical ethics and medical legal responsibilities of a transcriptionist.	Research paper. Exam.	Exams.
9. Demonstrate an awareness of the environment in which the transcriptionist is Pear review of employed	Pearreview of assignments.	Exams.
10. Think critically.	Peer review of assignments.	N/A
11. Solve problems	Peet review of assignments	N/A
12. Communicate effectively.	Peer review of assignments.	N/A
13. Demonstrate interpersonal skills	Peer review of assignments.	N/A
14. Recognize the value of human diversity.	Peer review of assignments.	N/A
15 Demonstrate life management skills:	Peer review of assignments.	N/A

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## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MEDICAL LABORATORY TECHNOLOGY

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## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MEDICAL LABORATORY TECHNOLOGY

	COMM 105	2301103	METAL	2012011		<u>.</u>				8	S	30000
. Perform routine collection and processing			بد			<u></u>	-	,		,		
procedures for biological specimens.						S. C.	١./د					v.
2. Perform routine analytical techniques on body			F/S			F/3	c.	n				
fluids using automated equipment and/or manual								_				
methods with accuracy and precision.						ī	3			·		5
3. Follow prescribed strategies to recognize technical			L.			L,	<u>.</u>	9		2		
or instrumental problems, identify direct causes, and												
make simple corrections when they are indicated						٠	L	٠			y	
4. Perform and monitor quality control to evaluate			ъ			L	L,	n	<u>.                                      </u>		2	
analytical procedures within predetermined												
parameters.						*	t					
Perform preventive maintenance of laboratory			<b>ц</b> ,			<u>.</u>						
increase he inferring to appropriate												
mandauddir of States of Artistans and Artist								••••				
sources/reterence materials.			ı			٦	ı	v			0,	S
<ol><li>Relate laboratory findings to common disease</li></ol>			<u> </u>	•		<b>-</b>	_	o -				
processes.						-	t	Ĺ	ŭ	٥	,	۷
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tong in specimens, need account and and account along												
reports, and itansmit reports creatify and completely			ŗ			ц	1	v	_	S	<b>.</b>	S
8. Follow prescribed safety procedures in all areas of			т.			-	•	,		)		
laboratory work.						•	ı	c		τ.	V	v
9 Weet requirements to take a national certifying			G.			т.	ı.	'n		'n		
Substitution and the fact that the substitution is a substitution of the substitution								•••				
examination for medical jaboratory recimicalis		١	٢			ц	ц	Ц			0,	,,
<ol> <li>Apply basic scientific principles in learning new</li> </ol>		_	<b>L</b>			•	•					
techniques and procedures.						ľ	L	u	ш	v	,	
11. Demonstrate professional conduct and	T.	u.	ı.	<b></b>		L	-	-	-	)		
interpersonal communication skills with patients,												
co-workers, and other health care professionals.								-			U	
12 Recognize and act upon one's need for continuing			ᅩ			<u>ı.</u>	_	т,			3	
education as a function of prowth and maintenance												
of professional competence.	ii.	5/5	2/3	ū	ti.	ī.	4	н	ш		ν,	
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14. Solve problems.	Ь	F/S	F/S	4	1	L (	- I	_ 4	<b>.</b> 4			
5. Communicate effectively.	Ŧ	ES	E/S	ı.	T	ц.	٠.'	ا ت	۱ ـ			v
6 Demonstrate internersonal effectively.	ъ	ш	ഥ	ഥ		щ	ъ.	Ι.	4		00000000	, ,
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18 Demonstrate life management ckills	_	_				•						١

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# COLUMBUS STATE COMMUNITY COLLEGE - MEDICAL LABORATORY TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

	Methods of Formative Assessment	Methods of Summative Assessment
Sittitetti Vittebilles		eletti eheet etti iire eliniest en norienen mastion form. final shoratory bracticals, capstone
<ol> <li>Perform routine collection and processing</li> </ol>	graded informery exercises and summaries, group projects/independent	2
procedures for biological specimens	studies, practical and written exams, professional attitudes evaluation	Source - I
2 Perform routine analytical techniques on body	graded laboratory exercises and summaries, group projects/independent	skill check-off lists, clinical experience evaluation form, linal laboratory practicals, capstone
fluids using automated equipment and/or manual	studies, practical and written exams, professional attitudes evaluation	course
methods with accuracy and precision.		
3 Exilow presembed strategies to recognize technical	graded laboratory exercises and summaries, group protects/independent	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capsione
(# northmental mmblems (# nith direct causes and	studies, practical and written exams, professional attitudes evaluation	COUISE
make simple corrections when they are indicated		
4 Perform and monitor quality control to evaluate	graded laboratory exercises and summaries, group projects/independent	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone
analytical procedures within predetermined	studies, practical and written exams, professional attitudes evaluation	course
parameters.		
5 Perform preventive maintenance of laboratory	graded laboratory, exercises and summaries, group projects/independent	skill check-off lists, clinical experience evaluation form, final laboratory practicals, expstotte
instruments by referring to appropriate	studies, practical and written exams, professional attitudes evaluation	COUTYE
sources/reference materials.		
6. Relate laboratory findings to common disease	graded laboratory exercises and summaries, group projects/independent	clinical experience evaluation form, mock registry, capstone course
nrocesses.	studies, practical and written exams, professional attitudes evaluation	
The an energiness been acmitate records.	graded taboratory exercises and summaries, group projects/independent	skill check-off lists, clinical experience evaluation form, final laboratory practicals, capstone
and the contract of the contra	didding amplied and stratter exame professional attitudes eval (2) (1)	course
reports, and transmit reports clearly and completely.	SIUDES PRETICAL AND WINES EXAMIS, PROCESSIONAL ANNUALS CAMPAIN	abili about off litts offinial experience evaluation form final laboratory practicals, cabstone
8. Follow prescribed safety procedures in all areas of	graded laboratory exercises and summaries, group projects/independent	SKIII CHECK-OII 11515, CHILICAL CAPCILITIC CVALIDATION TOTAL, THE MOST COLORY PROCESSING
laboratory work.	studies, practical and written exams, professional attitudes evaluation	COURSE
<ol> <li>Meet requirements to take a national certifying</li> </ol>	graded laboratory exercises and summaries, group projects/independent	capsione course, mock registry
examination for medical laboratory technicians	studies, practical and written exams, professional attitudes evaluation	
10. Apply basic scientific principles in learning new	graded laboratory exercises and summaries, group projects/independent	clinical experience evaluation form
techniques and procedures.	studies, practical and written exams, professional attitudes evaluation	
Demonstrate professional conduct and	self-assessment paper and exercise, attitudinal evaluation - quarterly	clinical experience evaluation form, clinical seminar
interpersonal communication skills with patients,		
co-workers, and other health care professionals.		
12. Recognize and act upon one's need for continuing	group projects, independent studies, professional journal summaries, attitudinal	clinical seminar presentations, clinical experience evaluation form
education as a function of growth and maintenance	evaluations	
of professional competence.	and the transfer of the transf	
13. Think critically	written exams, unknowns, lab practicals	clinical experience evaluation form, final lab practicals
14. Solve problems.	written exams, unknowns, lab practicals	clinical experience evaluation form, final lab practicals
15 Communicate effectively.	written assignments and presentations, exams, lab practicals	clinical experience evaluation form, clinical seminar participation
16. Demonstrate effectively.	attitudinal evaluations, group projects, daily lab duties	clinical experience evaluation form, clinical seminar participation
7 Becomize the value of Hillian diversity	arbindinal evaluation	clinical experience evaluation form, participation in seminar discussions
18 Demonstrate life management skills	attindinal evaluation, group assignments	clinical experience evaluation form, participation in seminar discussions
10. Delifolistiate interingeness conse		

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# COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MENTAL HEALTH/CHEMICAL DEPENDENCE/MENTAL RETARDATION TECHNOLOGY

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Cather functional procleosees (data seing chows alternation)  Merel wang standard of reasonment tooks activities, and to	Sa	.5/4				51.5	FS			F/S		
Organize data and formulate functional/psycho/social assessments.		F/S				F/S	F/S			F/S		
						F/S	F/S					
Ville coe anaganganga skults						FS.				*		
. Utilize positive behavior change strategies.			F/S									
Participate as a member of an interdisciplinary process team.						F/S	F/S					
Esthibit posetive professional work imbits:	£,	FA	F/S			FIS	ų					
<ol> <li>Exhibit professional characteristics of an efficient helper.</li> </ol>	F/S	F/S	F/S			F/S	F/S					
1.5. professional terminology appropriate to the field of MERLIPMENTE.	97	2	S.			F15	F/S			K.		
?. Think critically.	F/S	F/S				F/S	F/S			F/S	2	
Solve problems	V H	64				FS	S2			F/S		
4. Communicate effectively.	F/S	F/S	F/S			F/S	F/S			F/S		, <b></b>
. Demonstrue mierrer sonal skills	ñS	Ť.	F/S			F.S	r.s			FS		
<ol><li>Recognize the value of human diversity.</li></ol>	F/S	F/S	F/S			F/S	F/S			F/S		
Denominate bie nongraven chilis	99	7.8	F/S			FS	24			F/S		
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Treatment Plan, Video Interview  Treatment Plan, Video Interview  Treatment Plan, Video Interview	Treatment Plan, Video Interview, "Mock or planting conference Giald Development of the Conference of t		Video pric Series Counseling Skills, Self Of Counse of Counse Case conference of proups	Rinal prac 1-5 & tation Role play in Trans Classroom behavior practicum eval, 7 a	Exam, Final praction evaluation  Treatment plan for nation. Behavior plan	Treatment Plan, Professional Writing	Role play interviews, classroom behaviou commerciew  Role play interviews, classroom behaviou  Successful course completion with a Corbettal
Methods of Formative Assessment Data Gathering Paper Assessment Paper, Positive Reinforcement Assignment Tests Assessment Paper, Punishment Assignment, Tests, Mid	quarter practicum evaluation "Mock" treatment planting conference, Mid quarter practicum evaluation Mid quarter practicum evaluation	Mid quarter practicum evaluation  Differential Reinforcement Assignment, Tests, Mid quarter practicum evaluation	Assertive Message Paper, Mid quarter practicum evaluation, Problem Solving Paper Case conferencing in groups, Mid quarter practicum	Mid quarter practicum evaluation Role play interviews, Classroom behavior, Mid quarter practicum evaluation	Behavioral writing assignment, classroom behavior, Mid- quarter practicum evaluation  Small group discussion, Mid quarter practicum evaluation	States group discussion. Directoring Actingocenters raper, Mid quarter practicum evaluation  Behavioral Writing Assignment, Mid quarter practicum evaluation	Role play interviews, classroom behavior, Mid quarter practicum evaluation Role play interviews, classroom behavior, Disability Awareness workshop and reaction paper Tests
Student Outcomes Confice functional types choise and data using observation, interviewing, sundardized associated tools, activities, and/or pecial review Organize data and formulate functional/psycho/social assessments.	Pevelop reament programs based on assessments of functional/psychologicial needs: ""  Monitor and develop propress reports, social histories, and transfer/discharge summaries.		Use advanced counseling skills in helping relationships.  c. c. C. Participate as a member of an interdisciplinary process team.	Exhibit positive professional work habits.  3. Exhibit professional characteristics of an effective helper.  P P	(1. Con professional terminology appropriate to the field of MHCLDAGE(DD)  2. Think critically.		S Demonstrate Interpersonal skills:  6. Recognize the value of human diversity.  7. Demonstrate life management skills.  7. Demonstrate life management skills.

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MENTAL HEALTH TRACK

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1	dent Outcomes	Ultilize job development and job coaching skills.  Develop and implement activities to utilize as a tool in helping relationships.	Plan for co-lead, and process therapeutic groups.  Teach/train severely mentally disabled persons to perform activities of daily living.
	III	II Sylve	Plan fo Teach/I living.
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4. Teach/train severely mentally disabled persons to perform activities of daily living. 2. Develop and implement activities to utilize as a toll in helping relationships. Chilize job davelopment and job coaching skills... 3. Plan for co-lend, and process therapeutic groups. MHIMATRX.DOC WIN97

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Final practicum ev-

Volunteer Service par (8-12 hours) and Summer

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Final, Practicum

Tests, Task Analysis, Mid-quarter practicum evaluation

Methods of Formative Assessment

Tests, experiential class presentations, self-exploration

projects, Mid-quarter practicum evaluation

METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

MENTAL HEALTH TRACK

COLUMBUS STATE COMMUNITY COLLEGE

Exam

practicum evaluation, "Flyer" creation to advertise group, Paper, Group Selection In Class Assignment, Midquarter Journals, Therapeutic Factors Paper, Leadership Skills

Mid-quarter practicum evaluation Mid-quarter practicum evaluation

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### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - CHEMICAL DEPENDENCE TRACK

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meal	nent and	rvention s in the		
rdent Outcomes Recognize and identify significant signs and symptoms of chemical terendency using a variety of assessment mots	<ul> <li>Identify varying levels of care for chemical dependency treatment and common criteria for appropriate referral.</li> </ul>	<ul> <li>* dentify relapse dynamics/briggers and utilize a variety of intervention trratteies.</li> <li>Describe the philosophy and benefits of 12-step support groups in the</li> </ul>		
furlent Outcomes  Recognize and identify significant signs and sympton demonstrates true tools.	hemical depe erral.	and utilize a v		Han for, co-lead, and process therapeante groups
significant frets of assess	of care for copropriate ref	sics/triggers : y and benefi		process thera
e and identify	Identify varying levels of care for chemi common criteria for appropriate referral.	elspse dynan the philosoph	orocess.	:o-lead, and
Recognize and the state of the	. Identify v common c	strategies Describe t	гесоvету process.	. Plan for,

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## COLUMBUS STATE COMMUNITY COLLEGE CHEMICAL DEPENDENCY TRACK METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

Methods of Stringative (Assex)	8-12 volunteer hours and unmany. Final Practicum ( )	Scam Enal Practicum 12-Step Meeting Renc - Saper Frant, Final Practicum Final Exam, Final - 3 Ly duation
Wethods of Final Practicum Evaluation	8-12 volunteer hours an	
Methods of Formative Assessment Biopsychosocial Paper, Mid-quifter Practicum evaluation	Diagnostic Summary Exam, Mid-quarter Practicum evaluation	Relapse Prevention Paper, Mid-quarter Practicum evaluation Journal, Mid-quarter Practicum evaluation paper Therapeante Factors Paper, Leadership Skills Paper, Group Selection in class paper, Mid-quarter Practicum evaluation, "Flyer" creation to advertize group
Student Outcomes   Recognize and identify significant tigns and symptoms of chemical dependency using a   Biops	e for chemical dependency treatment and common criteria	Out appropriate receipts.  Hearth relapse Systems: Triggers and utilize a variety of intervention strategies.  Describe the philosophy and benefits of 12-step support groups in the recovery process.  Plan for, co-lead, and process therapentic groups.  Therapentic groups in class in class and process therapentic groups.

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### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - MENTAL RETARDATION TRACK

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dent Outcomes	Teach frain persons with MR/DD to perform activities of daily living	Use professional terminology appropriate to the field of MR/DD/.	Guifize a varity of habilitation techniques to teach and support persons with MR/DD.  Utilize job development and job coaching skills to provide supported employment services to persons with MR/DD.
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## COLUMBUS STATE COMMUNITY COLLEGE MENTAL RETARDATION TRACK METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

Pricing Activities and Lyron in Fig. Pricing Activities Final Pre-ionor Activities		Final Practicum Activities and Laware	
i ii	Attendance at local government meeting and two page well written summary, Mid-quarter	practicum evaluation Tests, Client Interview Assignment, Mid- quarter practicum evaluation Tests, Task Analysis, Mid-quarter practicum	evaluation
1. Teachtrain persons with MR/DD to perform activities of daily living. 2. Use professional terminology appropriate to the field of MR/DD/.		3. Utilize a varity of habilitation techniques to teach and support pursues with MR/DD.  1. Utilize job development and job coaching skills to provide supported employment services to persons with MR/DD.	

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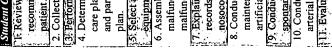
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## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - RESPIRATORY CARE TECHNOLOGY

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## COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX - RESPIRATORY CARE TECHNOLOGY

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Student Outcomes	1	MEDI 150	ENGL 102	KESF 250	¥	) KESF 1/0	X E	_{	COMM 103	KESP 292	KESP 258	2	3SCI 10A	KE	KESP 293	£CC7
The Review existing data in patient medical record and	<b>A</b>	Δia,		F	<b>H</b> 4,		1-		1	14,		1		ß	S	
recommend diagnostic procedures based on available	#¥					. 5 .7					de de de de		1 i .		<u> </u>	, Z,
patient intormation.				- 1	- 1	-4			1	1				,	ľ	
<ol><li>Collect and evaluate pertinent clinical information.</li></ol>	4		ц,	ŀ	F		1		F	F	Ŧ	<u>-</u>		S	S	
3. Perform diagnostic procedures and interpret results.	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		A 40 40 40 40 40 40 40 40 40 40 40 40 40	0	, A.R		ī.	1	Ø.	E	E	43	¥.	S	S	À
4. Determine appropriateness of prescribed respiratory	ഥ	щ		ч	Ŧ		고		F	F		124		S	s	
care plan, recommend modifications where indicated,													_			
plan.																
5. Select and obtain equipment, and assure cleanliness of				<u>i</u>	10		A			Ē	E.			S	Ś	(1) T
greenipment appropriate to the respiratory careplan.				4	.1	.],							+			
o. Assemble, check for proper function, identify malfunctions of equipment, and take action to correct				4	<u> </u>	ц	<u>.</u>			т,	щ			χ		
malfunctions of equipment.																
7. Explain planned therapy and goals to patient, maintain				9	B		Ĥ,		7	Œ.	18 S. T. FA			Ś	S	5 q
records and communication; and protect against patient							:		न्हु कि					·		
Conduct the properties and advisor to achieve		2 1				Section 1	(4)			25.5			6	U	0	
Conduct instable in procedures to achieve     maintenance of a nation aigust including the care of		4		ц	ц		<u> </u>			т,				n	<u></u>	
artificial airways: to achieve the removal of secretions.													_			_
9. Conduct therapeutic procedures to achieve adequate	1			1		Ĭ.	1	1		Ħ				S	S	
spontaneous and artificial ventilation:				e.			á	44 ( V			3			b 3		2
10. Conduct therapeutic procedures to achieve adequate				F	ц	ч	Ъ			F				s	S	
arterial and tissue oxygenation.								-								
11. Evaluate and monitor patient's response to respiratory	e E			<b>H</b>	Æ.	山	Ŧ.			4	ń.			S	S	
12 Make necessary modifications in therapeutic	L						1			. 1				S.	0	
procedures, and recommend respiratory care plan	•			•	•		•			•				1	)	
modifications based on patient response.																
13. Initiate and conduct, or modify respiratory: care					***		H			4			350	Š.	S	
techniques in an emergency setting.							7						p		-	
14. Demonstrate personal and professional behaviors					<u>r</u> ,	щ				ഥ					S	_
required for successful employment.								_								
15. Apply the principles of continuous quality improvement and quality assurance to work structions:	2.94 6.64	+1 ,4,8			<b>[33</b> ]		d Avi	· · · · ·		Ė,		2.3		, p.	so The state of the state of th	- 44
16. Think critically.	Ŧ			-	L	L	t	1	1	1	4				S	
17. Solve problems.	1	ij	9 10	В.	1	1	1	おいかまろ	1	4	iz	1			S	
fectively.			-	1	1	1				1	1				S	
19. Demonstrate interpersonal skills.			14.5		H	É				Į.	70.1				S	
20. Recognize the value of human diversity.					<u>г</u> ,					Ŀ					S	
21. Demonstrate life management skills.			5		H	1.67	3 7	13.1	;	E		三日 北里人			S	



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Student Outcomes	Methods of Formative Assessment	Methods of Summative Assessment	
(a)	Multiple choice exams Observation of Clinical Practice Laboratory Demonstration by students	NBRC SAE exams. NBRC credentialing exams Exalgation of Clinical Performance by preceptor (Used to evaluate all competencies):	
	Clinical Simulation Exams Student Presentations. Used to evaluate all competencies.		
2. Collect and evaluate pertinent clinical information.			
3. Perform diagnostic procedures and interpreturestills.			
4. Determine appropriateness of prescribed respiratory care plan, recommend modifications where indicated, and participate in the development of respiratory			
care plan.			
5. Select and obtain equipment, and assure cleanliness of equipment appropriate to		· · · · · · · · · · · · · · · · · · ·	
6. Assemble, check for proper function, identify malfunctions of equipment, and		The second secon	-
take action to correct malfunctions of equipment.			
7. Explain planned therapy and goals to patient, maintain records and	は、一般のでは、		
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including the care of artificial airways; to achieve the removal of secretions.			
9. Conduct therapeutic procedures to active edequate spontaneous and artificial	がある。 一般の		
10. Conduct therapeutic procedures to achieve adequate arterial and tissue			
oxygenation.			
11. Evaluate and monitor pareins response to respiratory care.			
12. Make necessary involutional in mode pour processes, and recommended respiratory care plan modifications based on patient response.			
13. Initiate and conduct, or modify respiratory care techniques in an emergency		The state of the s	
setting. 14 Demonstrate personal and professional hebaviors required for successful			
employment.			
15. Apply the principles of continuous quality improvement and quality assurance to		から、 できません (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	,
17. Solve problems,			
18. Communicate effectively.			
19. Demonstrate interpersonal skills.		医异氯化医二氯化苯乙烯 化多氯化物 计可用记录员 计计算	
20. Recognize the value of human diversity.			
21. Demoustrate-life management skills.			



COLUMBUS STATE COMMUNITY COLLEGE
RESPIRATORY CARE TECHNOLOGY
METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

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### METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT **EMERGENCY MEDICAL SERVICES TECHNOLOGY**

	METHODS OF SUMMATIVE ASSESSMENT	Standardized Testing External Assessors	Standardized Testing External Assessors	Standardized Testing External Assessors	Standardized Testing External Assessors	Standardized Testing Using Scenarios External Assessors	Standardized Testing Using Scenarios External Assessors	Standardized Testing Using Scenarios External Assessors			
	METHODS OF FORMATIVE ASSESSMENT	Locally-Designed Comprehensive Exams Simulated Task Performances Actual Task Performances Skills Check List	Locally-Designed Comprehensive Exams Simulated Task Performances	Locally-Designed Comprehensive Exams Simulated Task Performances Skills Check List	Simulated Task Performances Skills Check List	Simulated Task Performances and Scenarios	Simulated Task Performances and Scenarios	Simulated Task Performances and Scenarios	Simulated Task Performances and Scenarios	Simulated Task Performances and Scenarios	Simulated Task Performances and Scenarios
EMT-Basic Certificate	PROGRAM OUTCOMES	<ol> <li>Most State of Ohio/National requirements to take the EMT-Basic Certification Examination.</li> </ol>	2. Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.	<ol> <li>Administer appropriate emergency care to stabilize the patient's condition.</li> </ol>	4. Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.	5. Think critically.	6. Solve problems.	7. Communicate effectively.	8. Demonstrate interpersonal skills.	9. Recognize the value of human diversity.	10. Demonstrate life management skills.

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX EMERGENCY MEDICAL SERVICE TECHNOLOGY

### **EMT - Basic Certificate**

	PROGRAM OUTCOMES	IEMS 1510
1.	Meet State of Ohio/National requirements to take the EMT-Basic Certification Examination.	F/S
2.	Evaluate the nature and seriousness of a patient's condition or the state of the patient's injuries and assess requirements for emergency care.	F/S
3.	Administer appropriate emergency care to stabilize the patient's condition.	F/S
4.	Lift, move, position, and otherwise handle the patient in such a way as to minimize discomfort and further injury.	F/S
5.	Think critically.	F/S
6.	Solve problems.	F/S
7.	Communicate effectively.	F/S
8.	Demonstrate interpersonal skills.	F
9.	Recognize the value of human diversity.	F
10.	Demonstrate life management skills.	F

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • EMERGENCY MEDICAL SERVICE TECHNOLOGY

### **EMT - Intermediate Certificate**

PROGRAM OUTGOMES	EXS CTO :
Meet State of Ohio/National requirements to take the EMT-Intermediate Certification Examination.	F/S .
2. Perform all duties of an EMT-Basic.	S
Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.	F/S
4. Think critically.	F/S
5. Solve problems.	F/S
6. Communicate effectively.	F/S
7. Demonstrate interpersonal skills.	F
8. Recognize the value of human diversity.	F
9. Demonstrate life management skills.	F

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### **EMT-Intermediate Certificate**

EMI-INTERNITE CELINICATE		
PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Most State of Ohio/National requirements to take the	Locally-Designed Comprehensive Exams	Standardized Testing
EMT-Intermediate Certification Examination.	Skills Check List	External Assessors
	Simulated Task Performances	
	Actual Task Performances	
2. Perform all duties of an EMT-Basic.	Locally-Designed Comprehensive Exams	Standardized Testing
	Skills Check List	External Assessors
	Simulated Task Performances	
	Actual Task Performances	
3. Initiate appropriate intravenous procedures as	Locally-Designed Comprehensive Exams	Standardized Testing
specifically authorized by medical authority in advance.	Skills Check List	External Assessors
	Simulated Task Performances	
	Actual Task Performances	
4. Think critically.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
5. Solve problems.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
6. Communicate effectively.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
7. Demonstrate interpersonal skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
8. Recognize the value of human diversity.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
9. Demonstrate life management skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • EMERGENCY MEDICAL SERVICE TECHNOLOGY

**EMT - Paramedic Certificate** 

PROGRAM OUTCOMES	EMS 211	EMS 281;	EMS 291	EMS 212	EMS 282	EMS 292	EMS 213	EMS 283	EMS 293	EMS 214	EMS 284	EMS 294
Meet State of Ohio/National requirements to take the EMT-Paramedic Certification Examination.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
2. Perform all duties of the EMT-Basic.	S	F/S	F/S	S	F/S	F/S	S	F/S_	F/S	S	F/S	F/S
<ol> <li>Initiate appropriate intravenous procedures as specifically authorized by medical authority in advance.</li> </ol>	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
4. Initiate and continue emergency medical care under medical control, including recognizing presenting conditions and initiate appropriate invasive and noninvasive therapies (e.g., surgical and medical emergencies, airway and respiratory problems, cardiac dysrhythmias, cariopulmonary arrest, and psychological crisis), and assessing the response of the patient to that therapy.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
5. Think critically.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
6. Solve problems.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
7. Communicate effectively.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S
8. Demonstrate interpersonal skills.	F	F	F	F	F	F	F	F	F	F	F	F
9. Recognize the value of human diversity.	F	F	F	F	F	F	F	F	F	F	F	F
10. Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	F	F

## EMERGENCY MEDICAL SERVICES TECHNOLOGY METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

### **EMT-Paramedic Certificate**

PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Most State of Ohio/National requirements to take the	Locally-Designed Comprehensive Exams	Standardized Testing
EMT-Paramedic Certification Examination.	Skills Check Sheets	External Assessors
	Simulated Task Performances	
	Actual Task Performances	
2. Perform all duties of the EMT-Basic.	Locally-Designed Comprehensive Exams	Standardized Testing
	Skills Check Sheets	External Assessors
	Simulated Task Performances	
	Actual Task Performances	
3. Initiate appropriate intravenous procedures as	Locally-Designed Comprehensive Exams	Standardized Testing
specifically authorized by medical authority in	Skills Check Sheets	External Assessors
advance.	Simulated Task Performances	
	Actual Task Performances	
4. Initiate and continue emergency medical care under	Locally-Designed Comprehensive Exams	Standardized Testing
medical control, including recognizing presenting	Skills Check Sheets	External Assessors
conditions and initiate appropriate invasive and	Simulated Task Performances	
noninvasive therapies (e.g., surgical and medical	Actual Task Performances	
emergencies, airway and respiratory problems, cardiac		
dysrhythmias, cariopulmonary arrest, and psychological		
therapy.		
5. Think critically.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		External Assessors
6. Solve problems.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
	Cimulated and Actual Tack Dorformances and Constine	Chadadad Techna Heina Constine
7. Communicate effectively.	SITIUIAIEU ATU ACIUAI TASK FEITOTIIIAITES ATU ACETATIOS	Standardized Testing Osing Sections   External Assessors
	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
6. Demonstrate interpersonal skills.		External Assessors
9. Recognize the value of human diversity.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios
		LAIEITIAI ASSESSUIS
10.Demonstrate life management skills.	Simulated and Actual Task Performances and Scenarios	Standardized Testing Using Scenarios External Assessors

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • EMERGENCY MEDICAL SERVICE TECHNOLOGY

**EMS Associate Degree** 

遊遊	PROGRAM OUTCOMES	EMS 126	EMS 121	EMS 122	EMS 123.	EMS 125	EMS: 124	EMS 127	EMS - 220;	EMS XXX	ENGL 101	BIO:
1.	Perform all of the duties included in EMT-A and EMT-Paramedic training, after successful completing State of Ohio/National Certification Exams in these two areas.	F/S	F/S	F/S	F/S	F/S	F	F/S	F/S	F/S		
2.	Demonstrate knowledge of the legal aspects of Emergency Medical Service.			F/S								
3.	Prepare for and deal with disasters, including those involving hazardous materials.					F/S				·		_
4.	Explain the complexities of Emergency Medical Service.		F/S									
5.	Think critically.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
6.	Solve problems.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
7.	Communicate effectively.	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F/S	F	F
8.	Demonstrate interpersonal skills.	۴	F	F	F	F	F	F	F	F	F	F
9.	Recognize the value of human diversity.	F	F	F	F	F	F	F	F	F	F	
10.	Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • EMERGENCY MEDICAL SERVICE TECHNOLOGY

**EMS Associate Degree** 

	ENIS Associate Degree										 
	PROGRAM OUTCOMES	MATH 102	BIO) 1114	ENGL 102	COMM 105	ENGL 200	BIO 161	BIO 169	ssci. xxx	HUM XXX	
1.	Perform all of the duties included in EMT-A and EMT-Paramedic training, after successfull completing State of Ohio/National Certification Exams in these two areas.										
2.	Demonstrate knowledge of the legal aspects of Emergency Medical Service.				•						
3.	Prepare for and deal with disasters, including those involving hazardous materials.		F								
4.	Explain the complexities of Emergency Medical Service.										
5.	Think critically.	F/S	F	F/S	F/S	F/S	F	F	F/S	F/S	
6.	Solve problems.	F/S	F	F/S	F/S	F/S	F	F	F/S	F/S	
7.	Communicate effectively.	۴	F	F/S	F/S	F/S	F	F	F/S	F/S	
8.	Demonstrate interpersonal skills.		F	F	F	F	F	F	F	F	
9.	Recognize the value of human diversity.		F	F	F	F			F	F	
10	. Demonstrate life management skills.		F	F	F	F			F	F	





**EMT Associate Deg** 

	T METHODS OF SUMMATIVE ASSESS	Standardized Testing	External Assessors		Locally-Designed Comprehensive Exam		Locally-Designed Comprehensive Exam		Locally-Designed Comprehensive Exam				Simulated Scenarios (Locally Designed)	Simulated Scenarios (Locally Designed)				
	METHODS OF FORMATIVE ASSESSMENT	Locally-Designed Comprehensive Exams	Skills Check Sheets	Simulated Task Performance	Locally-Designed Comprehensive Exams	Group Problem-Solving Tasks	Group Problem-Solving Tasks	Locally-Designed Comprehensive Exams	Research Projects	Interviews	Locally-Designed Comprehensive Exams	Group Problem-Solving Tasks	Simulated Scenarios	Simulated Scenarios				
EMI Associate Degree	PROGRAM OUTCOMES	<ol> <li>Perform all of the duties included in</li> </ol>	EMT-A and EMT-Paramedic training, after successfully	completing State of Ohio/National Certification Exams in these two areas.	2. Demonstrate knowledge of the legal aspects of	Emergency Medical Service.	3. Prepare for and deal with disasters, including those	involving hazardous materials	4. Explain the complexities of Emergency Medical	Service.			5. Think critically.	6. Solve problems.	7. Communicate effectively.	8. Demonstrate interpersonal skills.	9. Recognize the value of human diversity.	10. Demonstrate life management skills.

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### **COLUMBUS STATE COMMUNITY COLLEGE** ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **HISTOLOGY OPTION**

	STUDENT OUTCOMES	MULT 169	MULT 160	MULT 161	MULT 162	MULT 163	MULT 164	MULT 165-166	MULT 167	MULT 168
1.	Identify the source of the tissue and correlate tissue identification with function	F	F/S	F/S	F/S	F/S	F/S	S	S	S
2.	Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.	F/S		F/S	F/S	F/S	F/S	S	S	5
3.	Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.					F/S	F/S	S	S	S
4.	Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.			F	F	F/S	F/S	S	S	S ·
5.	Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.	5		F/S	F/S	F/S	F/S	S	S	S
6.	Think critically.	F	F	F	F	F	F	S	S	S
7.	Solve problems.	F	F	F	F	F	F	S	S	S
8.	Communicate effectively.	F	F	F	F	F	F	S	S	S
9.	Demonstrate interpersonal skills.	F	F	F	F	F	F	S	S	S
10.	Recognize the value of human diversity.	F	F	F	F	F	F	S	S	S
11.	Demonstrate life management skills.	F	F	F	F	F	F	S	S	S

### **COLUMBUS STATE COMMUNITY COLLEGE** ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **HISTOLOGY OPTION**

	STUDENT OUTCOMES	MATH 102	81O 161	81O 169	CHEM 111	BIO 133			
1.	Identify the source of the tissue and correlate tissue identification with function		F	F		F			
2.	Prepare stain solutions and fix tissue while utilizing universal precautions and following OSHA and CDC guidelines.	F		F	F	F			
3.	Prepare and stain slides of organs or tissues safely and correctly for examination by a pathologist.		F	F	F	F			
4.	Identify inadequate staining preparations and make corrections to improve quality of slides to the satisfaction of the pathologist.	F	F	F	F	F			
5.	Meet requirements to take the certification exam in histology administered by the American Society of Clinical Pathologists.	F	F	F	F	F			
6.	Think critically.	F	F	F	F	F			
7.	Solve problems.	F	F	F	F	F			
8.	Communicate effectively.	F	F	F	F	F			
9.	Demonstrate interpersonal skills.	F	F	F	F	F			
10.	Recognize the value of human diversity.	F	F	F	F	F	_		
11.	Demonstrate life management skills.	F	F	F	F	F		_	

# MULTI-COMPETENCY HEALTH TE OLOGY - HISTOLOGY OPTION METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

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Ь	PROGRAM OUTCOMES	METHODS OF FORMATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
1. Identi	Identify the source of the tissue and	Task Pertormance with Guidance Practical Exame	Comprehensive Practical Exam
Corre	Correlate tissue identification with	Written Exams	Mock Registry Comprehensive Final Exam
iunction.	on.	Prepared Slide Assessment	Clinical Experience
			Clinical Evaluation
			Case Study Presentation
2. Prepar	Prepare stain solutions and fix tissue	Task Performance with Evaluation	Comprehensive Final Exam
-	while utilizing universal precautions	Practical Exams	Clinical Experience
and fo	and following OSHA and CDC	Quizzes	Registry Slide Preparation
guidelines.	ines.	Written Exams	Clinical Evaluation
0			Case Study Presentation
3. Prepar	Prepare and stain slides of organs or	Task Performance with Evaluation	Comprehensive Final Exam
	tissues safely and correctly for	Practical Exams	Clinical Evaluation
exami	examination by a pathologist.	Written Exams	Mock Registry
		Practical Exams	Registry Slide Preparation
			Clinical Experience
			Case Study Presentation
4. Identif	Identify inadequate staining	Task Performance with Guidance	Clinical Experience
prepar	preparations and make corrections to	Written Exams	Registry Slide Preparation
impro	improve quality of slides to the		Comprehensive Final Exam
satisfac	satisfaction of the pathologist.		Case Study Presentation
i. Meet r	Meet requirements to take the	Written Exams	Clinical Experience
certific	certification exam in histology	Practical Exams	Mock Registry
admin	administered by the American Society		Clinical Evaluation
of Clin	of Clinical Pathologists.		Registry Slide Preparation
i. Think	Think critically.		
7. Solve	Solve problems.		
3. Comm	Communicate effectively.		
). Demoi	Demonstrate interpersonal skills.		
<ol> <li>Recogniz diversity.</li> </ol>	Recognize the value of human diversity.		
1. Demor	11. Demonstrate life management skills.		

COLUMBUS STATE COMMUNITY COLLEGE

ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY

	STUDENT OUTCOMES	MULT 101	MULT 102	MULT 103	MULT 171	MULT 172	MATH 102	BIO 161	BIO 169	1	BIO 133	
1.	Spell, pronounce, use medical terminology correctly.	F/S	F/S					F/S	F/S		F/S	
2.	Recognize life-threatening situations and administer necessary first aid and/or CPR.		F/S	F/S				F	F	F	F	
3.	Demonstrate an understanding of medical ethics, medical legal responsibilities, and safety procedures, as well as professional attitudes.		F/S	F/S	F/S	F/S		F	F			
4.	Understand and practice universal precautions while conforming to the most current OSHA and CDC guidelines.		F/S	F/S				F	F		F	
5.	Present to community groups the psycho, social, legal, and epidemiologic issues surrounding the HIV infection, meeting the requirements for the Red Cross HIV/AIDS Instructor Certification.				F/S	F/S						
6.	Perform Standard First Aid as required by the American Red Cross.			F/S								
7.	Demonstrate entry level competence in two program options.	то	FOLLOW				See	Appr	opri	ate	Option	
8.	Think critically.	F	F	F	F	F	F/S	F	F	F	F	
9.	Solve problems.	F	F	F	F	F	F/S	F	F	F	F	
10.	Communicate effectively.	F	F	F	F	F	F	F	F	F	F	
11.	Demonstrate interpersonal skills.	F	F	F	F	F		F	F	F	F	
12.	Recognize the value of human diversity.	F	F	F	F	F		F	F	F	F	
13	Demonstrate life management skills.	F	F	F	F	F	F	F	F	F	F	



METHODS OF FORMATIVE ASSESSMENT	Spell, pronounce, use medical Midterm Examination terminology correctly.  Verbal Repetition with Video Tape  Task Performance with Faculty Direction	Recognize life-threatening situations and administer necessary first aid and/or CPR.  Skills Check-Off List and administer necessary first aid and/or CPR.	Demonstrate an understanding of Quizzes  medical ethics, medical legal responsibilities, and safety procedures, as well as professional Teach Backs	Understand and practice universal Skills Check-Off List precautions while conforming to the most current OSHA and CDC guidelines.	Present to community groups the psycho, social, legal, and psychologic issues surrounding the literature psycholog	Perform Standard First Aid as Skills Check-Off List required by the American Red Cross.	Demonstrate entry level competence To Follow in two program options.	Think critically.	Solve problems
,	주 声	2. Re an	3. De me res pro pro atti	4. Un pre	5. Pre epi	6. Per	7. De	8. Thir	0

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11. Demonstrate interpersonal skills.

10. Communicate effectively.

4600

13 Demonstrate life management skills.

Scognize the value of human versity.

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **HOME HEALTH AIDE**

	STUDENT OUTCOMES	MULT 122					
1.	Work for an organization under professional supervision in the role of Home Health Aide.	S					
2.	Understand and work with various client populations.	F/S		_			
3.	Identify and practice skills in home management, personal care, and interpersonal communication.	F/S					
4.	Meet the requirements published by the National Home Caring Council.	S					
5	Think critically.	F			_		
6.	Solve problems.	F/S					
7.	Communicate effectively.	F				_	
8.	Demonstrate interpersonal skills.	F				_	
9.	Recognize the value of human diversity.	F					
10.	Demonstrate life management skills.	F			_		

# MULTI-COMPETENCY HEALTH TE NOLOGY - HOME HEALTH AIDE METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

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METHODS OF SUMMATIVE ASSESSMENT	Clinical Practicum	Clinical Practicum	Clinical Practicum National Skills Test National Written Test	National Skills Test National Written Test						
METHODS OF FORMATIVE ASSESSMENT		Weekly Quizzes Case Studies	Written Weekly Quizzes Case Studies							
PROGRAM OUTCOMES	<ol> <li>Work for an organization under professional supervision in the role of Home Health Aide.</li> </ol>	<ol><li>Understand and work with various client populations.</li></ol>	<ol> <li>Identify and practice skills in home management, personal care, and interpersonal communication.</li> </ol>	<ol> <li>Meet the requirements published by the National Home Caring Council.</li> </ol>	5. Think critically.	6. Solve problems.	7. Communicate effectively.	8. Demonstrate interpersonal skills.	9. Recognize the value of human diversity.	10. Demonstrate life management skills.

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### **COLUMBUS STATE COMMUNITY COLLEGE** ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **EKG OPTION**

	STUDENT OUTCOMES	MULT 110						
1.	Position leads and use electrocardiographic equipment correctly.	F/S						
2.	Obtain and prepare an electrocardiography recording for analysis by a physician.	F/S					_	
3.	Recognize and correct technical errors in an electrocardiography recording.	F/S						
4.	Recognize and call attention to life- threatening abnormalities of an electrocardiograph.	F/S						
5.	Provide safe, professional direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.	F/S						
5.	Think critically.	F/S						
6.	Solve problems.	F/S						
7.	Communicate effectively.	F						
8.	Demonstrate interpersonal skills.	F						 _
9.	Recognize the value of human diversity.	F			_			
10.	Demonstrate life management skills.	F				_		



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METHODS OF SUMMATIVE ASSESSMENT erience luation	nation	erience luation	erience luation nation	erience luation nation	erience nation						
MISTHO Clinical Experience Clinical Evaluation	Final Examination Tally Sheets	Clinical Experience Clinical Evaluation Tally Sheets	Clinical Experience Clinical Evaluation Final Examination	Clinical Experience Clinical Evaluation Final Examination	Clinical Experience Final Examination						
METHODS OF FORMATIVE ASSESSMENT Student to Student Task Performance Midterm Examination		Student to Student Task Performance Midterm Examination	Student to Student Task Performance Midterm Examination	Student to Student Task Performance Midterm Examination	Classroom Task Performance Written Exam						
PROGRAM OUTCOMES  1. Position leads and use electrocardiographic equipment	correctly.	<ol> <li>Obtain and prepare an electrocardiography recording for analysis by a physician.</li> </ol>	<ol> <li>Recognize and correct technical errors in an electrocardiography recording.</li> </ol>	<ol> <li>Recognize and call attention to life- threatening abnormalities of an electrocardiograph.</li> </ol>	5. Provide safe, professional direct patient contact, specifically in the areas of infection control, electrical safety, privacy and environmental safety.	5. Think critically.	6. Solve problems.	7. Communicate effectively.	8. Demonstrate interpersonal skills.	<ol><li>Recognize the value of human diversity.</li></ol>	10. Demonstrate life management skills.

### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **HEALTH CARE MANAGER**

	STUDENT OUTCOMES	BMGT 218	MULT 270	MULT 272	MULT 274	MULT 276			
1.	Apply theories and principles of human resource management to real life health care situations.	F/S	F/S			F/S			
2.	Generate action plans, implementation activities, and evaluation processes to assure continuous quality improvement in health care institutions.				F/S				:
3.	Apply strategies, processes and current trends in health care management.	F/S	F/S	F/S	F/S	F/S			
4.	Understand risk management and the underlying legal principles inherent in the health care system.					F/S			
5.	Think critically.	F	F	F	F	F			
6.	Solve problems.	F/S	F/S	F/S	F/S	F/S			
7. 8.	Communicate effectively.	F	F	F	F	F			
	Demonstrate interpersonal skills.	F	F	F	F	F			
9.	Recognize the value of human diversity.	F	F	F	F	F			
10	. Demonstrate life management skills.	F	F	F	F	F			

# MULTI-COMPETENCY HEALTH TECHNOLOGY - HEALTH CARE MANAGER METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

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	PROCEAN OUTCOMES	METHODS OF FORWATIVE ASSESSMENT	METHODS OF SUMMATIVE ASSESSMENT
	A control of the cont	Midterm Examination	Written Final Examination
<u>-</u> :	Apply Ineories and principles of	Investigative Paper	Group Project Presentation
	life health care situations.	Assessment of Past Experience Paper	Interviewing/Role Playing
			Summary Paper
7	Generate action plans,	Midterm Examination	Final Examination
	implementation activities, and	mulyludal lilvesiigative rapei	
	evaluation processes to assure		
	improvement in health care		
	institutions.		
,	Analy etrategies processes and	Midterm Examination	Written Final Examination
÷	Apply strategies, processes and	Three Individual Projects	Summary Paper
		Class Participation (Graded)	Final Project
	managemein.	Weekly Written Investigative Paper	Role Playing
			Group Discussions
			Group Project Presentations
4	Understand risk management and the	Weekly Topic Paper	Final Examination
:	underlying legal principles inherent in	Class Participation (Graded)	Summary Paper
	the health care system.	Midterm Examination	
۸.	Think critically.		
و ا	Solve problems.		
~	Communicate effectively.		
8	Demonstrate interpersonal skills.		
6	Recognize the value of human diversity.		
2	10. Demonstrate life management skills.		

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### COLUMBUS STATE COMMUNITY COLLEGE ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY **NURSES AIDE**

_		MULT		<del></del>	г		<del></del>	<del></del>	1	 <del></del>	
	STUDENT OUTCOMES	120									
1.	Effectively communicate in the health care setting.	F/S									
2.	State and demonstrate principles of medical asepsis and universal precautions.	F/S									
3.	Identify and demonstrate the principles of safe resident care.	F/S									
4.	Discuss and demonstrate correct basic nursing skills.	F/S									
5.	Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.	S	_								
6.	Think critically.	F									
7.	Solve problems.	F/S				1					
8.	Communicate effectively.	F									
9.	Demonstrate interpersonal skills.	F									
10.	Recognize the value of human diversity.	F									
11.	Demonstrate life management skills.	F									

### MULTI-COMPETENCY HEALTH CHNOLOGY - NURSES AIDE METHODS OF FORMATIVE ALL SUMMATIVE ASSESSMENT

METHODS OF SUMMATIVE ASSESSMENT	Written Examination Clinical Practicum using Skills Checklist	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills	Written Examination Clinical Practicing using Skills Checklist State Test both Written and Skills						
METHODS OF FORMATIVE ASSESSMENT	Written Quizzes Practice Skills in Skills Laboratory	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers	Written Quizzes Practice Skills in Skills Laboratory Use mannequins and/or Peers						
PROGRAM OUTCOMES	<ol> <li>Effectively communicate in the health care setting.</li> </ol>	<ol> <li>State and demonstrate principles of medical asepsis and universal precautions.</li> </ol>	<ol> <li>Identify and demonstrate the principles of safe resident care.</li> </ol>	4. Discuss and demonstrate correct basic nursing skills.	5. Meet the requirements set forth in the Omnibus Budget Reconciliation Act of 1987.	6. Think critically.	7. Solve problems.	8. Communicate effectively.	9. Demonstrate interpersonal skills.	<ol> <li>Recognize the value of human diversity.</li> </ol>	11. Demonstrate life management skills.

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### **COLUMBUS STATE COMMUNITY COLLEGE** ASSESSMENT MATRIX • MULTI-COMPETENCY HEALTH TECHNOLOGY PHLEBOTOMY OPTION

	STUDENT OUTCOMES	MULT 115	MULT 114					
1.	Collect a quality blood specimen by venipuncture and capillary puncture using the appropriate collection equipment with minimum trauma to the patient.	F/S	S					
2.	Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.	F/S	5		i			
3.	Identify problems which may occur during blood collection and handle them effectively and correctly in a professional manner.	F/S	S					
4.	Perform all duties utilizing universal precautions while conforming to current OSHA standards and CDC guidelines.	F/S	S					
5.	Meet requirements to take a national certification exam in phlebotomy.	F/S	S					
5.	Think critically.	F	F/S				_	
6.	Solve problems.	F/S	F/S					
7.	Communicate effectively.	F	F					
8.	Demonstrate interpersonal skills.	F	F					
9.	Recognize the value of human diversity.	F	F					
10	. Demonstrate life management skills.	F	F					

## MULTI-COMPETENCY HEALTH TECHOLOGY - PHLEBOTOMY OPTION METHODS OF FORMATIVE AND SUMMATIVE ASSESSMENT

_	Clinical
IDS OF FORMATIVE ASSESSMEN	Each Other
METHO	Students Draw E
PROGRAM OUTCOMES	Collect a quality blood specimen by Students Draw Each Other
	•

VISITABLE CONTINUE CO	Clinical Experience Venipuncture Final Practical Capillary Final Practical Final Clinical Evaluation Final Midterm Exam Daily Tally Sheets	Clinical Experience Final Clinical Evaluation Final Practicals	Final Written Exam Clinical Experience Final Clinical Evaluation Daily Tally Sheets	Final Written Exam Clinical Experience Final Practicals	Clinical Experience Final Clinical Evaluation Daily Tally Sheets						
METHODS OF FORMATIVE ASSESSMENT	Students Draw Each Other Quizzes Midterm Written Exam Midterm Clinical Evaluation	Midterm Written Exam Student Draw Each Other Midterm Clinical Evaluation	Quizzes Midterm Exam Midterm Clinical Evaluation Students Draw Each Other	Students Draw Each Other Quizzes Midterm Exam	Students Draw Each Other Written Exams						
PROGRAM OUTCOMES	<ol> <li>Collect a quality blood specimen by venipuncture and capillary puncture using the appropriate collection equipment with minimum trauma to the patient.</li> </ol>	<ol> <li>Demonstrate professional conduct and interpersonal communication skills with patients, laboratory personnel and other health care professionals.</li> </ol>	<ol> <li>Identify problems which may occur during blood collection and handle them effectively and correctly in a professional manner.</li> </ol>	4. Perform all duties utilizing universal precautions while conforming to current OSHA standards and CDC guidelines.	5. Meet requirements to take a national certification exam in phlebotomy.	5. Think critically.	6. Solve problems.	7. Communicate effectively.	8. Demonstrate interpersonal skills.	<ol> <li>Recognize the value of human diversity.</li> </ol>	10. Demonstrate life management skills.

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F = FORMATIVE ASSESSMENT

### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART V: Labor Market Data



TABLE 1

### LABOR MARKET PROJECTIONS FOR PROPOSED TECH PREP MODEL CAREER CLUSTERS 1991-2000\*

		<del></del>	<del></del>					
OCCUPATIONAL AREA	! <b>!</b>	RATE OF GE (%)	TOTAL ANNUAL OPENINGS					
	ОНЮ	SDA 16	оню	SDA 16				
Multi-Competency Health Tec	hnology							
Nurse Aide	2.7	2.6	2609	362				
Home Health Aide	4.0	4.7	516	90				
All other	2.4	2.6	357	66				
Civil Engineering Technology								
Civil Construction Manager	1.5	1.9	128	26				
Surveyor	1.0	1.3	38	8				
Drafter	1.1	1.5	769	128				
Environmental Technology			<u> </u>					
Plant/System Operations	0.1	0.5	360	46				
Physical/Life Sciences Technician	0.7	1.2	276	44				
Construction Management Te	chnology	<del></del>						
Construction Manager	0.8	0.7	119	29				
Graphic Communications Tec	hnology	<del></del>	<u></u>					
Graphic Designer	2.1	2.1	607	54				
Photographer	0.9	1.8	181	31				
Technical Communications Te	chnology		·					
Technical Writer	1.3	2.3	68	11				
Editor	1.8	1.8	247	39				

<sup>\*</sup>Ohio Bureau of Employment Services, 1991-2000 Labor Market Projections.



### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART VI: Advisory/Review Committee Members



### Central Ohio Tech Prep Consortium BUSINESS-INDUSTRY VALIDATION MEETING for MULTI-COMPETENCY HEALTH TECHNOLOGIES

Tuesday, April 23, 1996 6:00 - 8:00 p.m. Columbus State Community College Union Hall Rooms 137-138-139

### **Industry Participants**

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Program Coordinator
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Nurse Coordinator for Patient Education
Veterans Admin. Medical Ctr., Chillicothe

Gerald Collins
Laboratory Training Coordinator
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Barbara Connor Chairperson, Clinical Support Services Mt. Carmel Medical Center, Columbus

Cathy Corcoran, R.N., D.O.N. Heartland of Chillicothe

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Phlebotomy Supervisor
Fairfield Medical Center, Lancaster

Susan Davis
Phlebeotomy Supervisor
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Paula Detterman, R.N., D.O.N. Berger Hospital, Circleville

Christopher Dillinger
Phlebotomy Supervisor
St. Ann's Hospital, Westerville

Kathy Entler, R.N., D.O.N.
Pike Community Hospital, Waverly

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Rebecca Katz, R.N., M.A., CCR.N. Director, Nursing Education Grant Medical Center, Columbus

Clare Lewandoski, Ph.D.
Chairperson, Health Services (retired)
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Patricia Marsolo MT Medical Technologist Grant Hospital, Columbus



Barbara Montgomery, R.N., M.S.N. Assistant Director, Assoc. of Science in Nursing Program Ohio University - Chillicothe

Tammy Moore, R.N.
Director, Patient Care Redesign
Mount Carmel Health, Columbus

Marna Petrie
Nursing Administration
Park Medical Center, Columbus

Judy Pitts, R.N. Assistant Director, Ambulatory Services Childrens' Hospital, Columbus

Marge Pizzuto, R.N. OSU University Hospitals, Columbus

Rae Ann Porter, R.N. Chief, Nursing Service Veterans Admin. Medical Ctr., Chillicothe

Sandy Russ Admin. Director, Laboratory Operations Mt. Carmel West Hospital, Columbus

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Medical Center Hospital, Chillicothe

Jackie Schwerling St. Ann's Hospital, Westerville

Richard Sobota CEO Pike Community Hospital, Waverly

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Medical Center Hospital, Chillicothe

Brenda Stritmatter, R.N., CEN Unit Manager Berger Hospital, Circleville

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Patti VanderWerdin
Co-Director of Workforce Planning
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### School and College Participants

Jay Benedict
Chairperson, Allied Health Department
Columbus State Community College

Larry Casterline, Ph.D.

Development, Planning, & School Support
South-Western City Schools

Anne Conner Instructor, Health programs Fairfield Career Center

Karen Dearbaugh
Career Development Coordinator
Eastland Vocational School District

Ross Dunlap (Co-Host)
Associate Superintendent
Eastland Vocational School District

Connie Faddis (Co-Host)
Director
Central Ohio Tech Prep Consortium

Julie Frank School Nurse Grove City High School

Vicki Johnson Instructor, Health programs Fairfield Career Center

Bill Jones Coordinator, Guidance Services Pickaway-Ross JVSD

Lynn Lakomia Instructor, Health programs Columbus Public Schools Pat McGee Director Fairfield Career Center

Elaine McGraw (Recorder)
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Mary VanSickle Instructor, Health programs Pickaway-Ross JVSD

Jan Wagner, Ph.D. (Co-Host)
Dean, Health & Human Services Division
Columbus State Community College



### HEART of OHIO TECH PREP CONSORTIUM 1996

**Multi-Competency Health Technologies Model** 

PART VII: Program Application



### TECH PREP HEALTH TECHNOLOGIES AUDIT (plus Tech Prep Program Application Questions No. 5 & 6)

### Patient Care-Based Programs

Tech Prep Consortium Heart of Ohio Tech Prep Consortium							
College Columbus State Community College							
High School(s)/Vocational School(s)Fairfield Career Center (Fastland VFPD)							
Proposed Tech Prep Health Technology Program: <u>Multi-Competency Health Technologies</u>							
Contact Person _Connie Faddis, TP Director DateOctober 1996							
The intent of this audit is to assure that issues and concerns pertinent to the success of these programs are addressed by each consortium. Please answer the following questions based on decisions and actions of your steering/governing committee:							

1. Provide support for the proposed program based on labor market information, employment trends, and anticipated changes in health care.

The Multi-Competency Health Technologies model is uniquely designed to prepare students for technical positions in the evolving health industry. Students completing the secondary portion of the program will, according to area health industry representatives (through an extensive labor market survey and an industry program validation process for program development), have a mastered core of patient care competencies and additional elective competencies to qualify them for an array of entry-level positions in the health care industry.

The postsecondary part of the program, the Tech Prep associate degree option in Multi-Competency Health Technology, will enable students to both broaden and deepen their skills as a multi-competent health technician. which health industry representatives confirm is the area of greatest and most probable job growth in the fast-changing fields of health care. Columbus State Community College's health-related programs routinely monitor changes in the labor market through program advisory committees and other forms of intensive communication with the industry (e.g., with administrators at clinical placement sites, active involvement with industry boards, accrediting agencies, professional associations, and the like).

Specific results from the Tech Prep program labor market survey, conducted in late Winter 1996, are as follows: Of over 50 surveys sent out to a broad array of health care organizations, 19 usable surveys were returned. Nine of these organizations



employ under 200 workers; ten of them employ over 200 workers. Only one works with a bargaining unit. Seventeen respondents agreed that there is a trend in the industry toward hiring employees who have multiple competencies in health technologies. Several of these respondents noted that multiple competence is "very necessary in smaller organizations." In total, responding organizations currently employ 519 persons in positions that would fit within the broad classification of Multi-Competent Health Technician; respondents estimate a need for an additional 142 workers in this category over the next five years. Employers expect to fill the majority of these new openings from outside of their organizations.

In addition to the local labor market survey, a series of business-industry program validation activities engaged 36 regional industry representatives in an in-depth review of the program competencies list as well as conversations about employment opportunities for both high school and associate degree Tech Prep graduates. These industry people confirmed the findings reported above.

2. Identify potential associate degree/apprenticeship exit occupations for the proposed Tech Prep Health Technology Program.

Multi-Competent Health Technician, Patient Care Technician, Histology Technician, Medical Transcriptionist, Phlebotomy Technician, Nurse Aide, Home Health Aide, Home Care Manager, EKG Technician, EMT/Paramedic, Medical Assistant.

3. Identify potential high school exit occupations for the proposed Tech Prep Health Technology Program.

Nurse Assistant, Home Health Aide, Ward Clerk.

4. What are the licensure, certification, and accreditation regulations that will affect the proposed program development?

The development process for the Multi-Competency Health Technologies Tech Prep model attended closely, from the beginning, to accreditation and certification requirements relevant to the program and program competencies. Assessment of student mastery of critical core technical competencies taught in grade 11 and options to be offered in grade 12 make use of state, national, or other nationally recognized certification instruments and procedures. All instructors of such content will be appropriately credentialed and prepared. (See the attached sheet, Fairfield Career Center's Competency Outline, for more detailed information on national, state, and association certifications included in program assessment requirements.)

The Multi-Competency Health Technology program at Columbus State Community College carries the following accreditations: National Accrediting Agency for Clinical Laboratory Sciences (histology, phlebotomy), Commission on Accreditation of Allied Health Education Programs (EMT/paramedic), and the Ohio Department of Health (nurse aide training). College faculty have and maintain all necessary



certifications to teach in their areas of specialty.

In addition, the Tech Prep program will convene a Consortium-wide advisory committee in the Fall of 1996 for the Multi-Competency Health Technologies model. This committee, together with the local school-based and college program advisory committees, will review the program on a regular basis and advise the Consortium partners regarding any revisions to content or assessment that may be needed to respond to changing regulations/requirements in the industry.

5. Describe how your consortium plans to deal with the issues of waiting lists and changing program admission requirements.

Students enrolling in the Consortium's Multi-Competency Health Technologies program in grade 11 will automatically be considered applicants to Columbus State's Multi-Competency Health Technology degree program (Tech Prep option), and will be admitted as such to the college program (within 1 calendar year of high school graduation, assuming satisfactory completion of the secondary competencies) under whatever Multi-Competency Health Technology college program admission criteria are in force at that time. (One objective of the Consortium advisory committee for this program will be to identify any changes in the secondary curriculum that may be needed to keep that curriculum current with admissions requirements of the receiving college program.)

Although the Tech Prep pathway into Columbus State specifically aims students at the Multi-Competency Health Technology program (Tech Prep option), the college recognizes that some Tech Prep high school students may decide to apply to one of its other (non-Tech Prep) college health technology programs (e.g., Nursing Technology, Surgical Technology). To facilitate this flexibility, the college's Health and Human Services Division has agreed to place Tech Prep high school students on any waiting lists for other Columbus State health technology programs at the time that the students successfully pass the NATP Nurse Aide Training Program state certification. For most students, this is expected to occur near the end of grade 11.

Finally, because the Consortium has recently expanded to include Ohio University - Lancaster, Consortium partners will work closely with any future health programs at that institution to develop appropriate Tech Prep college pathways for 12th grade completers of this model.

6. Describe the plans for on-going professional development between high school and higher education faculty.

The Health and Human Services Division at Columbus State will, as feasible, work with Tech Prep high school teachers to facilitate ongoing professional development for them along with relevant Columbus State faculty.



7. Provide a brief description of your consortium's plan for delivery of this Tech Prep Health Technology Program.

The Central Ohio Tech Prep Consortium has developed an innovative Tech Prep Health model, Multi-Competency Health Technologies. This model begins officially in grade 11 and concludes with a Tech Prep associate degree in Multi-Competency Health Technology at Columbus State Community College.

A unique feature of the program at the secondary level is its core-and-options approach (see the attached Competencies Outline), as follows:

Grade 11: Students take a required core of health technology competencies that are essential for entry into virtually any health-related career.

Assessment of these technical competencies uses state or national tests, or nationally recognized certifications. All high schools offering this program must deliver these required competencies.

Grade 12: Students select three areas of concentration from an approved menu of 12 competency cluster options (e.g., Phlebotomy Technology, Community Health & Safety, etc.). Five of these options are equivalent to technical courses at Columbus State, and make use of state, national, or nationally recognized certifications. The remaining 7 competency clusters have been approved to enable schools to enhance employability in the industry immediately following high school graduation.

In addition to the three quarters of competency cluster options, seniors complete one quarter of independent study (i.e., mentorship/internship at a health-based worksite, senior project, or college technical coursework via Post-Secondary Enrollment Options). Because of the model's multi-competency approach, the range of potential mentorship/internship placement opportunities is extensive, and could include hospitals, clinics, home health care organizations, physicians' offices, nursing homes and extended care facilities, pharmacies, nonprofit organizations such as the Red Cross, government agencies such as Veterans' Administration facilities, and so forth.

Although the Consortium model defines a menu of 12 competency cluster options for the senior year, individual high schools are required to offer only 3 (of their own choice), plus 1 quarter of independent study, although they may elect to offer a wider range of the approved options.

In the postsecondary part of the Tech Prep model, matriculating students will bypass any Columbus State courses in the Multi-Competency Health Technology associate degree program whose competency requirements they have met as part of



the approved secondary program. In place of those courses, matriculating students will be counseled on an individual basis to take advanced skills courses that are part of the Tech Prep option for the Multi-Competency Health Technology associate degree.
QUESTIONS 5 & 6 FROM PROGRAM APPLICATION FORM
5. Enrollment in your current Tech Prep programs:  CONSORTIUM NOTE: THIS HAS BEEN REPORTED SEPARATELY
11th  12th  1st year AD  2nd year AD  APP
6. Is a copy of each curriculum pathway of your current Tech programs available in the coordinator's office?
Yes/ No



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### HEART of OHIO TECH PREP CONSORTIUM

### RESPONSE TO THE RECOMMENDATIONS OF THE STATE AD HOC TECH PREP COMMITTEE FOR HEALTH TECHNOLOGIES June 1996

The Central Ohio Tech Prep Consortium has developed an innovative Tech Prep Health model, Multi-Competency Health Technologies. This model begins officially in grade 11 and concludes with a Tech Prep associate degree in Multi-Competency Health Technology at Columbus State Community College.

A unique feature of the program at the secondary level is its core-and-options approach (see the attached Competencies Outline), as follows:

Grade 11: Students take a required core of health technology competencies that are essential for entry in virtually any health-related career. Assessment of these technical competencies uses state or national tests, or nationally recognized certifications.

All high schools offering this program must deliver these required competencies. A panel of health industry representatives confirms that students who complete this required core are employable in a range of entry-level health industry jobs (e.g., nurse's aide, physician's office receptionist).

Grade 12: Students select three areas of concentration from an approved menu of 12 competency cluster options (e.g., Phlebotomy Technology, Community Health & Safety, etc.). Five of these menu options are equivalent to technical courses at Columbus State, and make use of state, national, or nationally recognized certifications. The remaining 7 competency clusters are available to enhance employability in the industry immediately following high school graduation.

In addition to the three quarters of competency cluster options, seniors complete one quarter of independent study (i.e., mentorship/internship at a health-based worksite, or college technical coursework via Post-Secondary Enrollment Options).

Although the Consortium model defines a menu of 12 competency cluster options for the senior year, individual high schools are required to offer only 3 (of their own choice), although they may elect to more.

In the postsecondary part of the Tech Prep model, students may bypass any Columbus State courses in the Multi-Competency Health Technology associate degree program whose competency requirements have been met as part of the approved secondary program. In place of those courses, matriculating students will be counseled on an individual basis to take advanced skills courses that will be offered as part of the Tech



Prep option for the Multi-Competency Health Technology degree.

In addition, students who complete the secondary portion of the Tech Prep model will have met all (or nearly all) of Columbus State's requirements for admission to ITS FULL ARRAY (?) of health degree programs. To support and facilitate possible changes in students' career interests, Columbus State will also develop vocational-technical articulation agreements to that will enable Tech Prep Multi-Competency Health Technologies high school graduates to apply to other health degree programs (e.g., Nursing, Respiratory Technology, etc.), and -- because these degree programs do not have Tech Prep options -- to receive college credit-in-escrow for courses in the college health programs whose competencies have been mastered at the secondary level.

The remainder of this response addresses issues raised by the state ad hoc committee, for which specific recommendations have been made.

### III.A. College Admission Criteria and Waiting Lists

Students enrolling in the Central Ohio Tech Prep Consortium's Multi-Competency Health Technologies program in grade 11 will automatically be considered applicants to Columbus State's Multi-Competency Health Technology degree program (Tech Prep option), and will be admitted to the college program (within 1 calendar year of high school graduation, assuming satisfactory completion of the secondary competencies) under whatever Multi-Competency Health Technology college program admission criteria were in force at the time of the students' high school junior year.

High school juniors enrolling in the Multi-Competency Health Technologies program will also be placed on Columbus State's Nursing program waiting list at the time they enter the Tech Prep program in grade 11.

Finally, because the Consortium is about to expand to include at least one additional college (Ohio University - Lancaster), the Consortium will work closely with any and all health programs, current or future, at that institution, to develop appropriate Tech Prep options or other kinds of opportunities for 12th grade completers of this model to continue their education.

### III.B. Articulation, Accreditation, Certification and Licensure

The development process for the Multi-Competency Health Technologies Tech Prep model attended closely, from the beginning, to accreditation and certification requirements relevant to the program and program competencies. Assessment of student mastery of critical core technical competencies taught in grade 11 and options to be offered in grade 12 make use of state, national, or other nationally recognized certification instruments and procedures. All instructors of such content will be appropriately credentialed and prepared. The Health and Human Services Division at Columbus State will, as feasible, work with Tech Prep high school teachers to facilitate



ongoing professional development for them along with relevant Columbus State faculty.

### IV.A. Managing the Labor Market

The Multi-Competency Health Technologies model is uniquely designed to prepare students for technical positions in the evolving health industry. Students completing the secondary portion of the program will, according to area health industry representatives (through an extensive labor market survey and an industry program validation process for program development), have a mastered core of patient care competencies and additional elective competencies to qualify them for an array of entry-level positions in the health care industry.

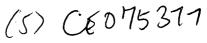
The postsecondary part of the program, the Tech Prep associate degree option in Multi-Competency Health Technology, will enable students to both broaden and deepen their skills as a multi-competent health technician that health industry representatives confirm is the area of greatest and most probable job growth in the evolving fields of health care. Columbus State health-related programs routinely monitor changes in the labor market through program advisory committees and other forms of intensive communication with the industry (e.g., with administration at clinical placement sites, active involvement with industry Boards, accrediting agencies, professional associations, and the like).

Finally, the Consortium will form a Tech Prep Multi-Competency Health Technologies Advisory Committee in the winter of 1997. This group will meet periodically to review program content and progress, support the program's continued growth and effectiveness, and advise Tech Prep educators about changing skill and employment trends in the industry.

### IV.B. Limited Clinical Sites

Each high school that offers the Consortium's Multi-Competency Health Technologies model will be responsible for developing one-quarter "independent study" mentorship/ internship placements for seniors. Because of the multi-competency approach, however, the range of potential placements is greatly extended, and could include hospitals, clinics, home care, physicians' offices, nursing homes and extended care facilities, pharmacies, nonprofit organizations such as the Red Cross, government agencies such as Veterans' Administration facilities, and so forth. Alternatively, seniors' one-quarter requirement for independent study could also be fulfilled by taking a relevant college-level technical course at a local postsecondary institution through Post-Secondary Enrollment Options.







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