2009 Mississippi Curriculum Framework

Postsecondary Medical Assisting Technology
(Program CIP-51.0801 – Medical /Clinical Assisting)

Direct inquiries to

Shawn Mackey
Director for Career and Technical Education
State Board for Community and Junior Colleges
3825 Ridgewood Road
Jackson, MS 39211
(601) 432-6518
smackey@sbcjc.cc.ms.us

Emily Reed
Instructional Design Specialist
Research and Curriculum Unit
P.O. Drawer DX
Mississippi State, MS 39762
(662) 325-2510
Emily.Reed@rcu.msstate.edu

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Acknowledgments

Writing Team	Kaye Roberson, Northeast Mississippi Community College, Booneville, MS
	Christine King, Hinds Community College, Rankin Campus, Pearl, MS
RCU Staff	Charlotte Darnell, Author – Instructional Design Specialist
	Emily Reed – Instructional Design Specialists
	Robin Parker, EdD – Workforce Education Coordinator
	Ashleigh Barbee Murdock – Editor
Professional Curriculum Advisory Team	Hinds Community College Medical Assisting Technology Advisory Committee
	Northeast Mississippi Community College Medical Assisting Technology Advisory Committee

Standards in this document are based on information from the following organizations:

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs	Reprinted with permission from the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 2009.
Related Academic Standards	CTB/McGraw-Hill LLC. (1994). *Tests of adult basic education, forms 7 and 8.* Monterey, CA: Author. Reproduced with permission of CTB/McGraw-Hill LLC. TABE is a registered trademark of The McGraw-Hill Companies, Inc. Copyright © 1994 by CTB/McGraw-Hill LLC. Reproduction of this material is permitted for educational purposes only.
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Preface

Medical Assisting Technology **Research Synopsis**

Articles, books, Web sites, and other materials listed at the end of each course or unit were considered during the revision process. Specific journals, articles, and sources were especially useful in providing insight into trends and issues in the field. These references are suggested for use by instructors and students during the study of the topics outlined.

Industry advisory team members' colleges throughout the state were asked to give input related to changes to be made to the curriculum framework. Specific comments related to soft skills needed in this program included punctuality, positive attitude, flexibility, initiative, empathy, compassion, professionalism, willingness to learn, adaptability, competence, integrity, confidence, and self motivation. Occupational-specific skills stated included dosage calculations, medical terminology, proper techniques for administering medications and injections, proper documentation, communication, good computer skills, multitasking, minimal laboratory skills, clinical patient care skills, and phlebotomy. Safety practices emphasized included adhering to standard precautions, following OSHA and HIPPA guidelines, and ergonomics.

Instructors from colleges throughout the state were also asked to give input on changes to be made to the curriculum framework. Specific comments related to this program included statements from Advisory Committee members including the need to ensure that current theories/methodologies and technologies are relevant to the workplace. Changes suggested for the curriculum included increase the course Clinical Review from 2 sch to 3 sch and add knowledge of principles of IV therapy to the course Pharmacology for Medical Assistants.

Curriculum
The following national standards were referenced in each course of the curriculum:
- CTB/McGraw-Hill LLC *Tests of Adult Basic Education, forms 7 and 8* Academic Standards
- *21st Century Skills*
- *CAAHEP Standards and Guidelines for Medical Assisting Educational Programs*

Industry and instructor comments, along with current research, were considered by the curriculum revision team during the revision process, and changes were made as needed and appropriate. Many of the skills and topics noted in the research were already included in the curriculum framework. Specific changes made to the curriculum at the data curriculum revision meeting included the following:
- Competencies and objectives were reviewed to ensure accuracy and appropriateness.
- Depth of knowledge level was added at each competency level.
- Competencies and objectives related to the revised standards for an accredited educational program were added or deleted.
- The course name for Externship (MET 2716) was changed to Practicum (MET 2716).
- The course Clinical Review (MET 2612) was changed from a 2-hr course to a 3-hr course (MET 2613).
- The reference list was updated.
- The Recommended Tools and Equipment list was updated.

Assessment
Students will be assessed using the *AAMA Certified Medical Assistant Certification/Recertification Examination.*

Professional Learning
It is suggested that instructors participate in professional learning related to the following concepts:
- Electronic medical record
- How to use the program Blackboard site
- Differentiated instruction – To learn more about differentiated instruction, please go to http://www.paec.org/teacher2teacher/additional_subjects.html, and click on Differentiated Instruction. Work through this online course, and review the additional resources.

Articulation

Articulation credit from Secondary Allied Health to Postsecondary Medical Assisting Technology will be awarded beginning with the fall semester of 2007. Course to be articulated includes MET 1113 – Medical Terminology. Also, articulation credit from Secondary Business and Computer Technology to Postsecondary Medical Assisting Technology will be awarded beginning with the fall semester of 2007. Courses to be articulated include CPT 1113 – Fundamentals of Microcomputer Applications and CPT 1324 – Survey of Microcomputer Applications.

SEC Program	PS Program	PS Courses
S Business & Computer Technology (CIP 52.0407)	PS Medical Assisting Technology (CIP 51.0801)	CPT 1113 – Fundamentals of Microcomputer Applications CPT 1323 – Survey of Microcomputer Applications

Statewide Guidelines on Articulated Credit

Eligibility
- To be eligible for articulated credit, a student must do the following:
  - Complete the articulated Secondary Vocational Program
  - Score 80 percent or higher on the Mississippi Career Planning and Assessment System (MS CPAS) in his or her secondary program of study
- To be awarded articulated credit, a student must do the following:
  - Complete application for articulated credit at the community or junior college
  - Enroll in the community or junior college within 18 months of graduation
  - Successfully complete 12 non-developmental career–technical or academic credit hours in the corresponding articulated postsecondary Career–Technical program of study

Postsecondary Medical Assisting Technology

How MS CPAS will be documented
- The Research and Curriculum Unit of Mississippi State University will provide the SBCJC a list of all secondary CTE students scoring at or above the 80 percentile for the articulated programs.
- The SBCJC will forward the list of students eligible for articulated credit to the colleges.

Transcripting of Articulated Credit
- Students must complete 12 non-developmental career–technical or academic credit hours in the articulated postsecondary Career–Technical program of study before the articulated credit is transcripted.
- No grade will be given on the transcript for articulated courses; only hours granted will be transcripted (thus resulting in no change in quality points).

Time Limit
- MS CPAS scores will be accepted to demonstrate competencies for up to 18 months after high school graduation.

Cost
- No costs will be assessed on hours earned through articulated credit.

Foreword

As the world economy continues to evolve, businesses and industries must adopt new practices and processes in order to survive. Quality and cost control, work teams and participatory management, and an infusion of technology are transforming the way people work and do business. Employees are now expected to read, write, and communicate effectively; think creatively, solve problems, and make decisions; and interact with each other and the technologies in the workplace. Vocational–technical programs must also adopt these practices in order to provide graduates who can enter and advance in the changing work world.

The curriculum framework in this document reflects these changes in the workplace and a number of other factors that impact on local vocational–technical programs. Federal and state legislation calls for articulation between high school and community college programs, integration of academic and vocational skills, and the development of sequential courses of study that provide students with the optimum educational path for achieving successful employment. National skills standards, developed by industry groups and sponsored by the U.S. Department of Education and Labor, provide vocational educators with the expectations of employers across the United States. All of these factors are reflected in the framework found in this document.

Referenced throughout the courses of the curriculum are the 21st Century Skills, which were developed by the Partnership for 21st Century Skills, a group of business and education organizations concerned about the gap between the knowledge and skills learned in school and those needed in communities and the workplace. A portion of the 21st Century Skills addresses learning skills needed in the 21st century, including information and communication skills, thinking and problem-solving skills, and interpersonal and self-directional skills. The need for these types of skills has been recognized for some time, and the 21st Century Skills are adapted in part from the 1991 report from the U.S. Secretary of Labor's Commission on Achieving Necessary Skills (SCANS). Another important aspect of learning and working in the 21st century involves technology skills, and the International Society for Technology in Education, developers of the National Educational Technology Standards (NETS), were strategic partners in the Partnership for 21st Century Skills.

Each postsecondary program of instruction consists of a program description and a suggested sequence of courses that focus on the development of occupational competencies. Each vocational–technical course in this sequence has been written using a common format that includes the following components:

- Course Name – A common name that will be used by all community/junior colleges in reporting students

- Course Abbreviation – A common abbreviation that will be used by all community/junior colleges in reporting students

- Classification – Courses may be classified as the following:
    - Vocational–technical core – A required vocational–technical course for all students

- o Area of concentration (AOC) core – A course required in an area of concentration of a cluster of programs
- o Vocational–technical elective – An elective vocational–technical course
- o Related academic course – An academic course that provides academic skills and knowledge directly related to the program area
- o Academic core – An academic course that is required as part of the requirements for an associate degree

- Description – A short narrative that includes the major purpose(s) of the course and the recommended number of hours of lecture and laboratory activities to be conducted each week during a regular semester

- Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course

- Corequisites – A listing of courses that may be taken while enrolled in the course

- Competencies and Suggested Objectives – A listing of the competencies (major concepts and performances) and of the suggested student objectives that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:

- The content of the courses in this document reflects approximately 75 percent of the time allocated to each course. The remaining 25 percent of each course should be developed at the local district level and may reflect the following:
  - o Additional competencies and objectives within the course related to topics not found in the State framework, including activities related to specific needs of industries in the community college district
  - o Activities that develop a higher level of mastery on the existing competencies and suggested objectives
  - o Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed/revised
  - o Activities that implement components of the Mississippi Tech Prep initiative, including integration of academic and vocational–technical skills and coursework, school-to-work transition activities, and articulation of secondary and postsecondary vocational–technical programs
  - o Individualized learning activities, including worksite learning activities, to better prepare individuals in the courses for their chosen occupational area

- Sequencing of the course within a program is left to the discretion of the local district. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors.

Postsecondary Medical Assisting Technology

- Programs that offer an Associate of Applied Science degree must include a minimum 15 semester credit hour academic core. Specific courses to be taken within this core are to be determined by the local district. Minimum academic core courses are as follows:
    - 3 semester credit hours   Math/Science Elective
    - 3 semester credit hours   Written Communications Elective
    - 3 semester credit hours   Oral Communications Elective
    - 3 semester credit hours   Humanities/Fine Arts Elective
    - 3 semester credit hours   Social/Behavioral Science Elective

    It is recommended that courses in the academic core be spaced out over the entire length of the program so that students complete some academic and vocational–technical courses each semester. Each community/junior college has the discretion to select the actual courses that are required to meet this academic core requirement.

- In instances where secondary programs are directly related to community and junior college programs, competencies and suggested objectives from the high school programs are listed as Baseline Competencies. These competencies and objectives reflect skills and knowledge that are directly related to the community and junior college vocational–technical program. In adopting the curriculum framework, each community and junior college is asked to give assurances that:
    - Students who can demonstrate mastery of the Baseline Competencies do not receive duplicate instruction and
    - Students who cannot demonstrate mastery of this content will be given the opportunity to do so.

- The roles of the Baseline Competencies are to do the following:
    - Assist community/junior college personnel in developing articulation agreements with high schools
    - Ensure that all community and junior college courses provide a higher level of instruction than their secondary counterparts

- The Baseline Competencies may be taught as special "Introduction" courses for 3–6 semester hours of institutional credit that will not count toward associate degree requirements. Community and junior colleges may choose to integrate the Baseline Competencies into ongoing courses in lieu of offering the "Introduction" courses or may offer the competencies through special projects or individualized instruction methods.

- Technical elective courses have been included to allow community colleges and students to customize programs to meet the needs of industries and employers in their area.

In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following:
- Adding new competencies and suggested objectives
- Revising or extending the suggested objectives for individual competencies
- Integrating baseline competencies from associated high school programs

Postsecondary Medical Assisting Technology

- Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the State Board for Community and Junior Colleges [SBCJC] of the change)

In addition, the curriculum framework as a whole may be customized by doing the following:
- Resequencing courses within the suggested course sequence
- Developing and adding a new course that meets specific needs of industries and other clients in the community or junior college district (with SBCJC approval)
- Utilizing the technical elective options in many of the curricula to customize programs

SEC Program	PS Program	PS Courses
S Business & Computer Technology (CIP 52.0407)	PS Medical Assisting Technology (CIP 51.0801)	CPT 1113 – Fundamentals of Microcomputer Applications CPT 1323 – Survey of Microcomputer Applications

Table of Contents

Program Description

Medical Assisting is a multi-skilled allied health profession whose practitioners work primarily in ambulatory settings such as medical offices and clinics. Medical assistants function as members of the health-care delivery team and perform many administrative and clinical procedures. The business administrative duties include scheduling and receiving patients; obtaining patients' data; maintaining medical records; handling telephone calls, correspondence, reports, and manuscripts; assuming responsibility for office care; and handling insurance matters, office accounts, fees, and collections. The clinical duties vary according to state law and may include preparing patients for examination, obtaining vital signs, taking medical histories, assisting with examinations and treatments, performing routine office laboratory procedures and electrocardiograms, preparing and administering medications and immunizations, sterilizing instruments and equipment for office procedures, and instructing patients in preparation for X-ray and laboratory examinations. Both administrative and clinical duties involve purchasing and maintaining supplies and equipment. A medical assistant may also be responsible for personnel and office management. Successful completion of this program entitles graduates to sit for the Certified Medical Assistant (CMA) American Association of Medical Assistant (AAMA) Certification/Recertification examination. This program is accredited by the Commission of Accreditation of Allied Health Education Programs (CAAHEP) on recommendation of the Medical Assisting Education Review Board (MAERB), 1361 Park Street, Clearwater, FL 33756, and (727) 210-2350. This curriculum references the CAAHEP Standards and Guidelines for the Accreditation of Educational Programs in Medical Assisting.

Medical Assisting Technology is a 2-year Associate of Applied Science Degree program.

CPR-Health Care Provider is a prerequisite to the program.

SEC Program	PS Program	PS Courses
S Business & Computer Technology (CIP 52.0407)	PS Medical Assisting Technology (CIP 51.0801)	CPT 1113 – Fundamentals of Microcomputer Applications CPT 1323 – Survey of Microcomputer Applications

Suggested Course Sequence*
Medical Assisting Technology**

Baseline Competencies for Medical Assisting Technology***

FIRST YEAR

3 sch	Written Communications Elective
3 sch	Medical Terminology (MET 1113)
4 sch	Anatomy and Physiology I (BIO 1514)
3 sch	Fundamentals of Microcomputer Applications (CPT 1113) or Survey of Microcomputer Applications (CPT 1324) or Computer Applications I (CSC 1123)
3 sch	Clinical Procedures I (MET 1313)
3 sch	Pharmacology for Medical Assistants (MET 1513)

_____
19 sch

4 sch	Medical Business Practices (MET 1214)
3 sch	Clinical Procedures II (MET 1323)
3 sch	Medical Law and Ethics (MET 1413)
4 sch	Anatomy and Physiology II (BIO 1524)
3 sch	Oral Communications Elective

_____
17 sch

SECOND YEAR

4 sch	Computer Concepts for Medical Assistants (MET 2224) (District option elective)
4 sch	Medical Laboratory for Medical Assistants (MET 2334)
4 sch	Medical Insurance (MET 2234)
3 sch	Math/Science Elective
3 sch	Social/Behavioral Science Elective

_____
18 sch

3 sch	Business Communication (BOT 2813)
6 sch	Practicum (MET 2716)
3 sch	Clinical Review (MET 2613)
3 sch	Humanities/Fine Arts Elective

_____
15 sch

* Students who lack entry-level skills in math, English, science, and so forth will be provided related studies.

** Baseline competencies are taken from the high school Allied Health program. Students who can document mastery of these competencies should not receive duplicate instruction. Students who cannot demonstrate mastery will be required to do so.

Medical Assisting Technology Courses

Course Name: Medical Terminology

Course Abbreviation: MET 1113

Classification: Vocational–Technical Core

Description: This course is a study of medical language relating to the various body systems including diseases, physical conditions, procedures, clinical specialties, and abbreviations. Emphasis is placed on correct spelling and pronunciation and the use of computer assisted software. (3 sch: 2-hr lecture, 2-hr lab)

Prerequisite: None

Competencies and Suggested Objectives

1. Recognize and discuss word components, terms, procedures, abbreviations, and symbols related to the various body systems. [MDA 4]
   a. Identify combining forms, suffixes, and prefixes related to the various body systems.
   b. Identify and discuss disease terms related to the various body systems.
   c. Identify diagnostic imaging, clinical, surgical, and laboratory procedures related to the various body systems.
   d. Identify abbreviations and symbols related to the various body systems.
   e. Define, spell, pronounce, and use medical terms.

2. Demonstrate ability to communicate information using medical terms in a clear, concise manner. [MDA 4]
   a. Read and comprehend medical terminology as viewed in medical charts.
   b. Discuss medical terminology used in medical charts.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 4   Concepts of Effective Communication

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
A3   Data Interpretation (graph, table, chart, diagram)
A5   Measurement (money, time, temperature, length, area, volume)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)

Postsecondary Medical Assisting Technology

L2 Sentence Formation (fragments, run-on, clarity)
L4 Capitalization (proper noun, titles)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

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21st Century Skills

CS4 Information and Communication Skills
CS5 Thinking and Problem-Solving Skills
CS6 Interpersonal and Self-Directional Skills

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Course Name: Medical Business Practices

Course Abbreviation: MET 1214

Classification: Vocational–Technical Core

Description: This course presents the administrative medical assistant procedures with office management written and oral communications. Emphasis is placed on clerical functions, billing, collecting, bookkeeping, and creating and maintaining medical records. The goal is to provide the student with practice situations through demonstration and simulated office settings utilizing electronic health-care record software. (4 sch: 3-hr lecture, 2-hr lab)

Prerequisite: Fundamentals of Microcomputer Applications (CPT 1113) or Survey of Microcomputer Applications (CPT 1324) or Computer Applications I (CSC 1123) and Medical Terminology (MET 1113)

Competencies and Suggested Objectives

1. Display professionalism. [MDA 4]
   a. Project a professional manner and image.
   b. Demonstrate initiative and responsibility.
   c. Manage time effectively.
   d. Prioritize and perform multiple tasks.
   e. Adapt to change.
   f. Promote the Certified Medical Assistant (CMA) credential.

2. Demonstrate professional communications. [MDA 4]
   a. Adapt communication to individuals' abilities to understand.
   b. Demonstrate professional telephone techniques.
   c. Respond to and initiate written communications.
   d. Recognize and respond to verbal and nonverbal communications.
   e. Discuss the role of assertiveness in effective professional communication.
   f. Use medical terminology appropriately.
   g. Receive, organize, prioritize, and transmit information.

3. Perform clerical functions. [MDA 5]
   a. Schedule and manage appointments.
   b. Schedule inpatient/outpatient admissions and procedures.
   c. Prepare, organize, and file patients' medical records.

4. Perform operational functions of the office environment. [MDA 5]
   a. Perform an inventory of supplies and equipment.
   b. Perform routine maintenance of administrative equipment.
   c. Utilize computer software to maintain office systems.

5. Perform bookkeeping procedures. [MDA 6]
   a. Prepare a bank deposit.
   b. Perform accounts receivable procedures.
     (1) Post entries on a daysheet.
     (2) Perform billing and collection procedures.
     (3) Post adjustments and refunds.

(4) Process credit balance.
(5) Post NSF checks.
(6) Post collection agency payments.
  c. Utilize computerized office billing systems.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 4   Concepts of Effective Communication
MDA 5   Administrative Functions
MDA 6   Basic Practice Finances

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
M2   Subtraction of Whole Numbers (no regrouping, regrouping)
M3   Multiplication of Whole Numbers (no regrouping, regrouping)
M4   Division of Whole Numbers (no remainder, remainder)
M5   Decimals (addition, subtraction, multiplication, division)
M6   Fractions (addition, subtraction, multiplication, division)
M8   Percents
M9   Algebraic Operations
A5   Measurement (money, time, temperature, length, area, volume)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

Postsecondary Medical Assisting Technology

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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Course Name: Clinical Procedures I

Course Abbreviation: MET 1313

Classification: Vocational–Technical Core

Description: The purpose of this course is to introduce the student to basic clinical skills, Occupational Safety and Health Administration (OSHA) standards, infection control, vital signs, patient preparation, and assisting with examinations, emphasizing the importance of being proficient in all of these areas. This course also provides students with opportunities to practice and demonstrate proficiency in simulated settings and check-offs. (3 sch: 2-hr lecture, 2-hr lab)

Pre/corequisites: Medical Terminology (MET 1113), Pharmacology for Medical Assistants (MET 1513), and CPR-Health Care Provider certification

Competencies and Suggested Objectives

1. Act in a professional manner. [MDA 4]
    a. Project a professional manner and image.
    b. Adhere to ethical principles.
    c. Demonstrate initiative and responsibility.
    d. Work as a team member.
    e. Manage time effectively.
    f. Prioritize and perform multiple tasks.
    g. Adapt to change.

2. Assess communication skills. [MDA 4]
    a. Treat all patients with compassion and empathy.
    b. Recognize and respect individual cultural diversity.
    c. Adapt communications to individual's ability to understand.
    d. Recognize and respond to verbal and nonverbal communications.
    e. Apply conflict resolution strategies when working with difficult patients and co-workers.
    f. Use medical terminology appropriately.
    g. Receive, organize, prioritize, and transmit information.
    h. Recognize the role of patient advocacy in the practice of medical assisting.

3. Apply legal concepts. [MDA 9]
    a. Maintain confidentiality.
    b. Practice within the scope of education, training, and personal capabilities.
    c. Document accurately.

4. Perform clinical duties. [MDA 1, MDA 3, MDA 4, MDA 11]
    a. Apply principles of aseptic technique and infection control.
    b. Employ OSHA guidelines as stated in the Federal Register.
    c. Obtain patient history and vital signs.
    d. Adhere to established patient screening procedures.
    e. Recognize and respond to medical emergencies.
    f. Prepare, maintain, and clean examination and treatment area.
    g. Identify and state the purpose of each instrument used in selected clinical procedures.

> h. Recognize the need for proper care, storage, and maintenance of instruments.
> i. Prepare patients for examinations, procedures, and treatments.
> j. Assist with routine and specialty examinations, procedures, and treatments.
> k. Demonstrate specimen collection according to appropriate lab guidelines.
> l. Instruct patients in the collection of fecal specimens.
> m. Screen and follow up test results.
> n. Comply with quality assurance practices.
> o. Provide instruction for health maintenance and disease prevention.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 1	Anatomy and Physiology
MDA 3	Applied Microbiology/Infection Control
MDA 4	Concepts of Effective Communication
MDA 9	Legal Implications
MDA 11	Protective Practices

Related Academic Standards

R1	Interpret Graphic Information (forms, maps, reference sources)
R2	Words in Context (same and opposite meaning)
R3	Recall Information (details, sequence)
R4	Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5	Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1	Addition of Whole Numbers (no regrouping, regrouping)
M2	Subtraction of Whole Numbers (no regrouping, regrouping)
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M6	Fractions (addition, subtraction, multiplication, division)
M7	Integers (addition, subtraction, multiplication, division)
M8	Percents
M9	Algebraic Operations
A1	Numeration (ordering, place value, scientific notation)
A2	Number Theory (ratio, proportion)
A3	Data Interpretation (graph, table, chart, diagram)
A4	Pre-Algebra and Algebra (equations, inequality)
A5	Measurement (money, time, temperature, length, area, volume)
A7	Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8	Estimation (rounding, estimation)
L1	Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2	Sentence Formation (fragments, run-on, clarity)
L3	Paragraph Development (topic sentence, supporting sentence, sequence)

Postsecondary Medical Assisting Technology

L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
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        Davis.

Course Name: Clinical Procedures II

Course Abbreviation: MET 1323

Classification: Vocational–Technical Core

Description: This course is a continuation of Clinical Procedures I and will further the student's knowledge of the more complex activities encountered in the physician's office. The clinical duties include maintaining surgical asepsis, instructing patients in preparation for radiologic and sonographic studies, performing ECGs, preparing and administering medications as directed by the physician, and providing mobility assistance. (3 sch: 2-hr lecture, 2-hr lab)

Prerequisite: Clinical Procedures I (MET 1313), Medical Terminology (MET 1113), and Pharmacology for Medical Assistants (MET 1513)

Competencies and Suggested Objectives

1. Apply fundamental principles of aseptic technique in minor surgical procedures. [MDA 3]
   a. List the equipment and supplies basic to all minor surgical procedures.
   b. Demonstrate equipment sterilization procedures.
   c. Prepare minor office surgery tray.
   d. Perform skin prep of surgery site.

2. Provide instructions to patients to prepare for diagnostic imaging studies. [MDA 4]
   a. Prepare patients for procedures.
   b. Instruct patients in preparation for radiological and sonographic studies.

3. Perform selected tests that assist with diagnosis and treatment. [MDA 1, MDA 2, MDA 4]
   a. Perform respiratory testing.
   b. Describe the electrical conduction system of the heart.
   c. Perform an electrocardiogram (ECG).
   d. Define ECG artifacts, and list their causes on an ECG.
   e. Differentiate among the patch, scratch, and intradermal skin tests.
   f. Describe how to determine the results for each of the allergy testing methods.
   g. Describe how to determine the results for TB testing using Mantoux and Tine Test methods.
   h. Assist with routine and specialty examinations, procedures, and treatments.
   i. Demonstrate specimen collection according to appropriate lab guidelines.
   j. Instruct patients in the collection of fecal specimens.
   k. Screen and follow up test results.
   l. Comply with quality assurance practices.

4. Prepare and administer medications and immunizations as directed by physician. [MDA 1, MDA 2, MDA 3]
 	
   a. Name the tissue layers and sites of injection for intradermal, intramuscular, z-track, and subcutaneous injections.
   b. Select the proper size needle and syringe for a specific injection.
   c. Perform the proper technique for administering intradermal, intra-muscular, z-track, and subcutaneous injections.
   d. Demonstrate the proper disposal of a used needle and syringe.

5. Demonstrate knowledge of selected mobility assistance skills and use of equipment. MDA 1, MDA 4

    a. Recognize and practice principles of body mechanics.
    b. Recognize and practice principles of exercise for range of motion.
    c. Recognize and practice principles of transfers.
    d. Recognize and practice principles of ambulation activities.
    e. Discuss the use and care of patient equipment.

6. Practice appropriate legal concepts. MDA 9, MDA 11

    a. Respond to issues of confidentiality.
    b. Perform within legal and ethical boundaries.
    c. Maintain an awareness of federal and state health-care legislation and legal guidelines.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 1	Anatomy and Physiology
MDA 2	Applied Mathematics
MDA 3	Applied Microbiology/Infection Control
MDA 4	Concepts of Effective Communication
MDA 9	Legal Implications
MDA 11	Protective Practices

Related Academic Standards

R1	Interpret Graphic Information (forms, maps, reference sources)
R2	Words in Context (same and opposite meaning)
R3	Recall Information (details, sequence)
R4	Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5	Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1	Addition of Whole Numbers (no regrouping, regrouping)
M2	Subtraction of Whole Numbers (no regrouping, regrouping)
M3	Multiplication of Whole Numbers (no regrouping, regrouping)
M4	Division of Whole Numbers (no remainder, remainder)
M5	Decimals (addition, subtraction, multiplication, division)
M6	Fractions (addition, subtraction, multiplication, division)
M7	Integers (addition, subtraction, multiplication, division)
M8	Percents
M9	Algebraic Operations
A1	Numeration (ordering, place value, scientific notation)
A2	Number Theory (ratio, proportion)
A3	Data Interpretation (graph, table, chart, diagram)
A4	Pre-Algebra and Algebra (equations, inequality)
A5	Measurement (money, time, temperature, length, area, volume)
A6	Geometry (angles, Pythagorean theory)

Postsecondary Medical Assisting Technology

A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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    Davis.

Postsecondary Medical Assisting Technology

Course Name: Medical Law and Ethics

Course Abbreviation: MET 1413

Classification: Vocational–Technical Core

Description: This course covers medical law, ethics, and bioethics; the legal relationship of the physician and patient; the legal responsibilities of the healthcare team including the patient; and the importance of professional liability. (3 sch: 3-hr lecture)

Prerequisite: None

Competencies and Suggested Objectives

1. Define and discuss basic legal concepts. [MDA 9]
     a. Distinguish between civil and criminal law.
     b. Differentiate between a felony and a misdemeanor.
     c. Distinguish between negligence and malpractice.
     d. List the elements of civil malpractice litigation.
     e. Identify the phases followed in trying medical malpractice cases.
     f. Identify the stages of appeal.
     g. Identify the economic impact of malpractice litigation on the cost of medicine.
     h. Define *subpoena ducas tecum*.
     i. Define tort.
     j. Distinguish among law, morals, ethics, and etiquette.

2. Perform within legal and ethical boundaries. [MDA 9, MDA 10]
     a. Identify ways that employment in a medical office carries legal obligations for the patient, employer, employee, and state.
     b. Recognize the Code of Ethics of the health-care professions.

3. Practice within the scope of education, training, and personal capabilities. [MDA 9]
     a. Explain standard of care.
     b. Describe the professional conduct for medical office personnel to prevent medical malpractice lawsuits.

4. Identify and respond to issues of confidentiality. [MDA 9]
     a. Explore the issue of confidentiality as it applies to the medial assistant.
     b. Apply the legal doctrine of privileged communication to the contents of a medical record.
     c. Summarize the Patient's Bill of Rights.
     d. Explain the correct procedure for reporting communicable diseases in a manner that maintains confidentiality.

5. Document accurately. [MDA 9]
     a. Explain the importance of medical record credibility.
     b. Demonstrate the acceptable method for making corrections to a medical record.
     c. Determine needs for documentation and reporting.
     d. List different types of medical records.

6. Use appropriate guidelines when releasing records or information. [MDA 9]   a. Describe the legal, moral, and ethical aspects of informed consent.

   b. Identify the owner of a medical record.
   c. Apply HIPAA rules in regard to privacy/release of information.

7. Follow employer's established policies dealing with the health-care contract. [MDA 9]
   a. List three elements for a contract to be valid.
   b. Differentiate between an implied and expressed contract for medical treatment.
   c. Incorporate the Patient's Bill of Rights into personal practice and medical office policies and procedures.
   d. Discuss the procedure for terminating a physician-patient contract.

8. Follow federal, state, and local legal guidelines in the practice setting. [MDA 9]

9. Implement and maintain awareness of federal and state health-care legislation and regulations. [MDA 10]
   a. Identify questions surrounding bioethics and its impact on future generations.
   b. Identify ethical questions surrounding life, death, and the impact on future generations.
   c. Identify legal responsibilities for minors, incompetents, and special needs patients.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 9   Legal Implications
MDA 10   Ethical Considerations

Related Academic Standards

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M8 Percents
A3 Data Interpretation (graph, table, chart, diagram)
L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

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21st Century Skills

Postsecondary Medical Assisting Technology

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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    Prentice Hall.

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    McGraw-Hill.

Course Name: Pharmacology for Medical Assistants

Course Abbreviation: MET 1513

Classification: Vocational–Technical Core

Description: The course reflects basic theory and clinical information related to drugs including classifications, source, dosages and measurements, regulatory requirements, and basic principles of drug administration. At all times, safety is emphasized for the health professional administering the medication and the patients receiving the medication. Accuracy is stressed. (3 sch: 3-hr lecture)

Prerequisite: None

Competencies and Suggested Objectives

1. Calculate medication dosages. [MDA 2]
     a. Convert household measures to apothecary and metric system.
     b. Calculate dosages based on body weight and body surface area.
     c. Solve clinical calculations involved in the administration of medication with 100% accuracy.
     d. Use knowledge of appropriate methods of rounding doses when administering medications.

2. Identify the major drug classifications. [MDA 1]
     a. List the major drug classifications.
     b. Name at least five drugs in each major classification.
     c. Identify the action, indication, usual dosage, and adverse reactions of commonly used drugs.

3. Identify the five controlled substances schedules. [MDA 9]
     a. Define the five controlled substances schedules, and give examples of medications listed in each.
     b. Explain storage, inventory, record keeping, and disposal for controlled substances.
     c. Explain the significance of the Controlled Substances Act of 1970.

4. Apply pharmacology principles to prepare and administer oral and parenteral (excluding intravenous [IV]) medication. [MDA 1, MDA 3]
     a. State the "Six Rights" of proper drug administration.
     b. State the guidelines for safe drug administration.
     c. Identify the various methods and routes of administration of medication.
     d. State the advantages and disadvantages of each medication route.

5. Discuss medication orders from the physician. [MDA 2]
     a. Identify and define the standard abbreviations and symbols used in prescribing and administering medications.
     b. List the nine parts of a prescription.
     c. Discuss the different types of medication orders.

6. Identify special considerations related to administering medications to infants and children. MDA 1, MDA 2

   a. Calculate medication dosages for children.
   b. Discuss preferred routes of administration of medication.
   c. State preferred sites of intramuscular (IM) injections in children.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 1   Anatomy and Physiology
MDA 2   Applied Mathematics
MDA 3   Applied Microbiology/Infection Control
MDA 9   Legal Implications

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
M2   Subtraction of Whole Numbers (no regrouping, regrouping)
M3   Multiplication of Whole Numbers (no regrouping, regrouping)
M4   Division of Whole Numbers (no remainder, remainder)
M5   Decimals (addition, subtraction, multiplication, division)
M6   Fractions (addition, subtraction, multiplication, division)
M7   Integers (addition, subtraction, multiplication, division)
M8   Percents
M9   Algebraic Operations
A1   Numeration (ordering, place value, scientific notation)
A2   Number Theory (ratio, proportion)
A3   Data Interpretation (graph, table, chart, diagram)
A4   Pre-Algebra and Algebra (equations, inequality)
A5   Measurement (money, time, temperature, length, area, volume)
A6   Geometry (angles, Pythagorean theory)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)

Postsecondary Medical Assisting Technology

S3   Structural Unit (root, suffix)

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21st Century Skills

CS1   Global Awareness
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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Rice, J. (2006). *Principles of pharmacology for medical assisting* (4th ed.). Clifton Park, NY: Thomson Delmar Learning.

Course Name: Computer Concepts for Medical Assistants

Course Abbreviation: MET 2224

Classification: District Option Elective

Description: This course will introduce students to the capabilities of a medical practice management software program typical of those currently used in doctors' offices. After completion of this course, students will have knowledge about working with patient accounts, insurance claim forms, and handling reports dealing with management of the medical practice. (4 sch: 2-hr lecture, 4-hr lab)

Prerequisite: Fundamentals of Microcomputer Applications (CPT 1113) or Survey of Microcomputer Applications (CPT 1324) or Computer Applications I (CSC 1123) and Medical Terminology (MET 1113) or equal

Competencies and Suggested Objectives

1. Discuss practice management data. [MDA 5, MDA 6]
   a. Describe the flow of information in the medical office.
   b. Discuss the role of computers in today's medical office.
   c. Discuss hardware and software maintenance and technical support.
   d. Discuss the purpose of the medical billing software.

2. Enter patient information and billing data. [MDA 5, MDA 6]
   a. Enter patient account information.
   b. Describe the relationships of the guarantor and patient.
   c. Explain the process of posting accounts.
   d. Modify or correct a patient account.
   e. Post payments from accounts.
   f. Make posting adjustments from the procedure entry screen.
   g. Make posting adjustments from the payment entry screen.

3. Generate super bills, billing statements, and insurance claim forms. [MDA 5, MDA 7]
   a. Discuss functions of a super bill for various medical specialties.
   b. Post charges from a super bill to a patient's account.
   c. Explain several methods for billing patients on a regular basis.
   d. Print patient statements.
   e. Name and describe three types of insurance plans.
   f. Describe three methods for collecting insurance payments.

4. Age accounts receivable. [MDA 6]
   a. Discuss the account aging process.
   b. Explain the purpose and importance of a period, close, and purge.

5. Print patient and practice reports. [MDA 5, MDA 6]
   a. Retrieve and print patient reports including guarantor reports, insured party reports, referring party reports, and ailment reports.
   b. Retrieve and print medical practice reports including procedure code reports, diagnostic code reports, claim center reports, service facility reports, current period reports, and system summary reports.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 5   Administrative Functions
MDA 6   Basic Practice Finances
MDA 7   Managed Care/Insurance

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
M2   Subtraction of Whole Numbers (no regrouping, regrouping)
M3   Multiplication of Whole Numbers (no regrouping, regrouping)
M4   Division of Whole Numbers (no remainder, remainder)
M5   Decimals (addition, subtraction, multiplication, division)
M6   Fractions (addition, subtraction, multiplication, division)
M7   Integers (addition, subtraction, multiplication, division)
M8   Percents
M9   Algebraic Operations
A1   Numeration (ordering, place value, scientific notation)
A2   Number Theory (ratio, proportion)
A3   Data Interpretation (graph, table, chart, diagram)
A4   Pre-Algebra and Algebra (equations, inequality)
A5   Measurement (money, time, temperature, length, area, volume)
A6   Geometry (angles, Pythagorean theory)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

Postsecondary Medical Assisting Technology

CS2   Financial, Economic, and Business Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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American Association of Medical Assistants. (n.d.). *CMA Today*. Retrieved April 21, 2009, from
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Fitzpatrick, D. (2009). *The medical manager for windows: Student edition version 10.3* (5th ed.).
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Course Name: Medical Insurance

Course Abbreviation: MET 2234

Classification: Vocational–Technical Core

Description: The purpose of this course is to acquaint the student with different types of insurance plans including commercial plans, government plans, disability, worker's compensation, and managed care plans. Practical approach to insurance billing, basic medical and insurance abbreviations, terminology, and ICD-9-CM and CPT coding will be presented. (4 sch: 3-hr lecture, 2-hr lab)

Prerequisite: Fundamentals of Microcomputer Applications (CPT 1113) or Survey of Microcomputer Applications (CPT 1324) or Computer Applications I (CSC 1123) and Medical Terminology (MET 1113)

Competencies and Suggested Objectives

1. Perform procedural and diagnostic coding. [MDA 8]
   a. Locate the correct CPT and ICD-9 code.
   b. Identify the importance and use of modifiers in coding.
   c. State the meaning of basic abbreviations and symbols in the code books.

2. Describe the life cycle of a health insurance claim form. [MDA 4, MDA 5, MDA 6, MDA 7, MDA 8]
   a. Abstract from the patient record the information for completing an insurance claim form.
   b. Process the Universal Health Insurance Claim Form.
   c. Record on the patient's ledger card after submitting a claim.
   d. Formulate an insurance claims register or log.
   e. Monitor third-party reimbursement.
   f. Utilize effective oral or written communication with insurance companies regarding erroneous payments.
   g. Trace a delinquent insurance claim.
   h. Describe electronic claims transmission.

3. Analyze and apply current third-party guidelines. [MDA 7]
   a. Define the major classes of health insurance contracts.
   b. Give examples of federal, state, and private insurance plans.
   c. Define common insurance, medical, and diagnostic terms.
   d. Differentiate among usual, customary, and reasonable fees.
   e. Cite the essential features of the commercial plans, government plans, worker's compensation, and disability.

4. Recognize and adhere to managed care policies and procedures. [MDA 7]
   a. Define a Prepaid Health Plan (PHP).
   b. Identify the types of prepaid health plans.
   c. Define independent practice associations (IPA).
   d. Define preferred provider organizations (PPO).
   e. Identify the purpose of diagnosis related groups.
   f. Define terminology related to diagnosis related groups.

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g. Describe how payment is made based on diagnosis related groups.
h. Discuss professional review organizations (PROs).
i. Discuss managed care referrals and precertifications.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 4   Concepts of Effective Communication
MDA 5   Administrative Functions
MDA 6   Basic Practice Finances
MDA 7   Managed Care/Insurance
MDA 8   Procedural and Diagnostic Coding

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
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A5   Measurement (money, time, temperature, length, area, volume)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
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Postsecondary Medical Assisting Technology

21st Century Skills

CS1   Global Awareness
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Green, M. A., & Rowell, J. C. (2008). *Understanding health insurance* (9th ed.). Clifton Park,
      NY: Delmar Cengage Learning.

Course Name: Medical Laboratory for Medical Assistants

Course Abbreviation: MET 2334

Classification: Vocational–Technical Core

Description: This course covers techniques of the clinical laboratory including competent use of the microscope and understanding the theory and knowledge of the common laboratory tests performed in the physician's office. Students will develop proficiency in laboratory and quality assurance procedures including collection, preparation and processing of specimens, urinalysis, hematology, and accurate reporting of test results. (4 sch: 3-hr lecture, 2-hr lab)

Prerequisite: Anatomy and Physiology I (BIO 1514) and II (BIO 1524), Clinical Procedures I (MET 1313) and II (MET 1323), and Medical Terminology (MET 1113)

Competencies and Suggested Objectives

1. State the organization and function of the medical laboratory. [MDA 1]
   a. List the organization and function of the medical laboratory.
   b. Describe the departments within a medical laboratory.

2. Manage the physician's office laboratory. [MDA 3, MDA 5, MDA 11]
   a. Comply with established risk management and safety procedures.
   b. Comply with federal Clinical Laboratory Improvement Amendments (CLIA) regulations.
   c. Explain the proper care, use, function, and storage of the microscope.
   d. Perform an inventory of supplies and equipment.
   e. Operate and perform routine maintenance of clinical equipment.
   f. Practice standard precautions.
   g. Dispose of biohazardous materials according to OSHA guidelines.

3. Collect and process clinical specimens. [MDA 1, MDA 3]
   a. Discuss the hazards in a medical laboratory.
   b. Discuss and practice laboratory safety procedures.
   c. Perform capillary and venipuncture.
   d. Obtain specimens for microbiological testing.
   e. Instruct patients in the collection of a clean-catch midstream urine specimen.
   f. Demonstrate wound collection procedure for microbiological testing.

4. Perform selected laboratory tests that assist with diagnosis and treatment. [MDA 1, MDA 2, MDA 3]
   a. Perform CLIA waived tests to include urinalysis.
     (1) Perform hematology testing.
     (2) Perform chemistry testing.
     (3) Perform immunology testing.
     (4) Perform microbiology testing.
   b. Prepare a microhematocrit sample.
   c. Perform manual and automated hematology procedures.
   d. Perform the erythrocyte sedimentation test.
   e. Describe the interaction of blood vessels, platelets, coagulation factors, and fibrinolytic systems in normal and abnormal homeostasis.

f.   Perform a urine pregnancy test.
g.   Perform a test for infectious mononucleosis.
h.   Perform a rapid strep test.
i.   Describe the formation and composition of urine.
j.   Explain the properties involved in the physical, chemical, and microscopic examination of urine.
k.   Perform the testing involved in the physical, chemical, and microscopic examination of urine.
l.   Correlate results of urinalysis with clinical conditions.
m. Record laboratory results accurately.
n.   Solve laboratory mathematics problems.

5. Screen and follow up patient test results. [MDA 1, MDA2]
a.   Briefly describe the function, composition, normal values, and characteristics of blood.
b.   Discuss common blood disorders.

6. Comply with quality assurance practices. [MDA 1, MDA 2]
a.   Define accuracy and precision.
b.   Perform quality control procedures.
c.   Explain the importance of quality control in the physician's office laboratory, plot quality control results, and interpret these results.
d.   Discuss erroneous results due to equipment error.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 1   Anatomy and Physiology
MDA 2   Applied Mathematics
MDA 3   Applied Microbiology/Infection Control
MDA 5   Administrative Functions
MDA 11   Protective Practices

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)
R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
M2   Subtraction of Whole Numbers (no regrouping, regrouping)
M3   Multiplication of Whole Numbers (no regrouping, regrouping)
M4   Division of Whole Numbers (no remainder, remainder)
M5   Decimals (addition, subtraction, multiplication, division)
M6   Fractions (addition, subtraction, multiplication, division)
M7   Integers (addition, subtraction, multiplication, division)

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M8   Percents
A1   Numeration (ordering, place value, scientific notation)
A3   Data Interpretation (graph, table, chart, diagram)
A5   Measurement (money, time, temperature, length, area, volume)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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        Park, NY: Thomson Delmar Learning.

Course Name: Clinical Review

Course Abbreviation: MET 2613

Classification: Vocational–Technical Core

Description: This summary course is designed to review the skills, knowledge, and abilities acquired during the didacticum. This course will serve to assist the student in preparing for the certification exam, with a review of critical clinical skills and professional development issues. (3 sch: 3-hr lecture)

Pre/corequisites: Anatomy and Physiology I (BIO 1514) and II (BIO 1524), all core courses, and concurrent registration in Practicum (MET 2716)

Competencies and Suggested Objectives
1. Apply test taking strategies and study skills. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11   a. Demonstrate the ability and apply selected study and test taking strategies.   b. Demonstrate familiarity with the CMA exam format.   c. Assess individual knowledge weaknesses, and improve these weaknesses.
2. Prepare for the National Certification Exam. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11   a. Discuss national certification and continuing education.   b. Review specific content areas for the CMA exam.   c. Take mock certification exams for practice.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

MDA 1   Anatomy and Physiology
MDA 2   Applied Mathematics
MDA 3   Applied Microbiology/Infection Control
MDA 4   Concepts of Effective Communication
MDA 5   Administrative Functions
MDA 6   Basic Practice Finances
MDA 7   Managed Care/Insurance
MDA 8   Procedural and Diagnostic Coding
MDA 9   Legal Implications
MDA 10   Ethical Considerations
MDA 11   Protective Practices

Related Academic Standards

R1   Interpret Graphic Information (forms, maps, reference sources)

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R2   Words in Context (same and opposite meaning)
R3   Recall Information (details, sequence)
R4   Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5   Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)
M1   Addition of Whole Numbers (no regrouping, regrouping)
M2   Subtraction of Whole Numbers (no regrouping, regrouping)
M3   Multiplication of Whole Numbers (no regrouping, regrouping)
M4   Division of Whole Numbers (no remainder, remainder)
M5   Decimals (addition, subtraction, multiplication, division)
M6   Fractions (addition, subtraction, multiplication, division)
M7   Integers (addition, subtraction, multiplication, division)
M8   Percents
M9   Algebraic Operations
A1   Numeration (ordering, place value, scientific notation)
A2   Number Theory (ratio, proportion)
A3   Data Interpretation (graph, table, chart, diagram)
A4   Pre-Algebra and Algebra (equations, inequality)
A5   Measurement (money, time, temperature, length, area, volume)
A6   Geometry (angles, Pythagorean theory)
A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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Course Name: Practicum

Course Abbreviation: MET 2716

Classification: Vocational–Technical Core

Description: This course includes supervised experience in medical offices to provide the student with a comprehensive application of administrative and clinical skills. This course is designed to give the student an opportunity to discuss, evaluate, and share learning experiences and to strengthen learning situations brought up in the practicum setting. (6 sch: 1-hr lecture, 15-hr clinical)

Pre/corequisites: Successful completion of all freshman and first semester sophomore courses is required. Concurrent registration in Clinical Review (MET 2613)

Competencies and Suggested Objectives

1. Perform clerical functions. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
 	
   a. Schedule and manage appointments.
   b. Schedule inpatient and outpatient admissions and procedures.
   c. Organize a patient's medical record.
   d. File medical records.

2. Perform bookkeeping procedures. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
 	
   a. Prepare a bank deposit.
   b. Post entries on a daysheet.
   c. Perform accounts receivable procedures.
   d. Perform billing and collection procedures.
   e. Process credit balance.
   f. Process refunds.
   g. Post NSF checks.
   h. Post collection agency payments.

3. Process insurance claims. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
 	
   a. Apply managed care policies and procedures.
   b. Apply third-party guidelines.
   c. Perform procedural coding.
   d. Perform diagnostic coding.
   e. Complete insurance claim forms.

4. Apply fundamental clinical procedures. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
 	
   a. Utilize aseptic technique and infection control.
   b. Wrap items for autoclaving.
   c. Perform sterilization techniques.
   d. Dispose of biohazardous materials.
   e. Practice standard precautions.

5. Perform specimen collection. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11

   a. Perform venipuncture.
   b. Perform capillary puncture.
   c. Obtain specimens for microbiological testing.
   d. Instruct patients in the collection of a clean; catch midstream urine specimen.
   e. Instruct patients in the collection of fecal specimens.

6. Perform diagnostic testing. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11

   a. Perform electrocardiography.
   b. Perform respiratory testing.
   c. Perform CLIA waived tests.
      (1) Perform urinalysis.
      (2) Perform hematology testing.
      (3) Perform chemistry testing.
      (4) Perform immunology testing.
      (5) Perform microbiology testing.

7. Provide patient care. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
   a. Perform telephone and in-person screening.
   b. Obtain vital signs.
   c. Obtain and record patient history.
   d. Prepare, maintain, and clean examination and treatment areas.
   e. Prepare patient for and assist with routine and specialty examinations.
   f. Prepare patient for and assist with procedures, treatments, and minor office surgeries.
   g. Apply pharmacology principles to prepare and administer oral and parenteral (excluding IV) medications.
   h. Maintain medication and immunization records.
   i. Screen and follow up test results.

8. Employ professional communications. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11

   a. Respond to and initiate written communications.
   b. Recognize and respond to verbal communications.
   c. Recognize and respond to nonverbal communications.
   d. Demonstrate telephone techniques.

9. Practice legal concepts. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11
   a. Identify and respond to issues of confidentiality.
   b. Perform within legal and ethical boundaries.
   c. Establish and maintain the medical record.
   d. Document appropriately.
   e. Demonstrate knowledge of federal and state health-care legislation and regulations.

10. Demonstrate patient instruction. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11

    a. Explain general office policies.
    b. Instruct individuals according to their needs.
    c. Provide instruction for health maintenance and disease prevention.
    d. Identify community resources.

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11. Maintain operational functions. MDA 1, MDA 2, MDA 3, MDA 4, MDA 5, MDA 6, MDA 7, MDA 8, MDA 9, MDA 10, MDA 11

    a. Perform an inventory of supplies and equipment.
    b. Perform routine maintenance of administrative and clinical equipment.
    c. Utilize computer software to maintain office systems.
    d. Use methods of quality control.

STANDARDS

CAAHEP Standards and Guidelines for Medical Assisting Educational Programs

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MDA 6	Basic Practice Finances
MDA 7	Managed Care/Insurance
MDA 8	Procedural and Diagnostic Coding
MDA 9	Legal Implications
MDA 10	Ethical Considerations
MDA 11	Protective Practices

Related Academic Standards

R1	Interpret Graphic Information (forms, maps, reference sources)
R2	Words in Context (same and opposite meaning)
R3	Recall Information (details, sequence)
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M6	Fractions (addition, subtraction, multiplication, division)
M7	Integers (addition, subtraction, multiplication, division)
M8	Percents
M9	Algebraic Operations
A1	Numeration (ordering, place value, scientific notation)
A2	Number Theory (ratio, proportion)
A3	Data Interpretation (graph, table, chart, diagram)
A4	Pre-Algebra and Algebra (equations, inequality)
A5	Measurement (money, time, temperature, length, area, volume)
A6	Geometry (angles, Pythagorean theory)

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A7   Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8   Estimation (rounding, estimation)
L1   Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2   Sentence Formation (fragments, run-on, clarity)
L3   Paragraph Development (topic sentence, supporting sentence, sequence)
L4   Capitalization (proper noun, titles)
L5   Punctuation (comma, semicolon)
L6   Writing Conventions (quotation marks, apostrophe, parts of a letter)
S1   Vowel (short, long)
S2   Consonant (variant spelling, silent letter)
S3   Structural Unit (root, suffix)

21st Century Skills

CS1   Global Awareness
CS2   Financial, Economic, and Business Literacy
CS3   Civic Literacy
CS4   Information and Communication Skills
CS5   Thinking and Problem-Solving Skills
CS6   Interpersonal and Self-Directional Skills

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Recommended Tools and Equipment

CAPITALIZED ITEMS

1. Arm, injectable training (1 per 2 students)
2. Chemistry analyzer, dryslide (1 per program)
3. Chemistry analyzer (wet) with reagent set (1 per program)
4. Centrifuge, table top (5 per program)
5. ECG machine with stand (2 per program)
6. Examination table (2 per program)
7. Eye wash station (1 per program)
8. Hematology analyzer, automated (1 per program)
9. Micro-Hematocrit centrifuge (1 per program)
10. Intramuscular training buttocks (1 per program)
11. Manikin, child size (2 per program)
12. Manikin, CPR adult (2 per program)
13. Manikin, CPR baby (2 per program)
14. Microscope, oil immersion (1 per student)
15. Ophthalmoscope/otoscope combination (1 per program)
16. Refractometer (5 per program)
17. Scale, physician (1 adult and 1 pediatric per program)
18. Semiautomated cell counter (1 per program)
19. Wheelchair, adult (1 per program)
20. Autoclave (1 per program)
21. Spirometer (1 per program)
22. Computer, color with accessories (1 per student)
23. Printer, laser (1 per 2 computers)
24. TV monitor, 25 in. color (1 per program)
25. VCR (1 per program)
26. DVD (1 per program)
27. LCD (1 per program)
28. Slide projector (1 per program)

NON-CAPITALIZED ITEMS

1. Cabinet, file (lateral) (1 per program)
2. Percussion hammer (1 per program)
3. Stethoscope, dual teaching (1 per program)
4. Glucometer (1 per program)
5. Lamp, gooseneck (1 per program)
6. Mayo tray and stand (1 per program)
7. Thermometer, digital (1 per program)
8. Thermometer, electronic (1 per program)
9. Thermometer, temporal (1 per program)
10. Thermometer, tympanic (1 per program)

11. Transcriber with headphone and foot pedals (1 per student)
12. Treatment cabinet (1 per program)
13. Bandages, triangular (10 per program)
14. Bandages, Ace-type (1 set of assorted widths and sizes)
15. Bedsheets, flat (5 per program)
16. Ishahara color blindness chart (1 per program)
17. Pillows (2 per program)
18. Pillowcases (6 per program)
19. Slide drying racks (1 per 2 students)
20. Snellen Eye Chart (1 per program)
21. Sphygmomanometer, wall mount (aneroid) (1 per program)
22. Sphygmomanometer, free standing (aneroid) (1 per 2 students)
23. Sphygmomanometer (electronic) (1 per program)
24. Stethoscope (1 per 2 students)

Assessment

Students will be assessed using the *AAMA Certified Medical Assistant Certification/Recertification Examination.*

Appendix A: CAAHEP Standards and Guidelines for Medical Assisting Educational Programs[1]

MDA 1   Anatomy and Physiology
MDA 2   Applied Mathematics
MDA 3   Applied Microbiology/Infection Control
MDA 4   Concepts of Effective Communication
MDA 5   Administrative Functions
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MDA 9   Legal Implications
MDA 10   Ethical Considerations
MDA 11   Protective Practices

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[1] *Standards and guidelines for medical assisting educational programs adopted by the Commission on Accreditation of Allied Health Education Programs and The American Association of Medical Assistants.* (2008). Retrieved April 21, 2009, from http://www.caahep.org/Content.aspx?ID=30

Appendix B: Related Academic Standards[2]

Reading

R1 Interpret Graphic Information (forms, maps, reference sources)
R2 Words in Context (same and opposite meaning)
R3 Recall Information (details, sequence)
R4 Construct Meaning (main idea, summary/paraphrase, compare–contrast, cause–effect)
R5 Evaluate/Extend Meaning (fact/opinion, predict outcomes, point of view)

Mathematics Computation

M1 Addition of Whole Numbers (no regrouping, regrouping)
M2 Subtraction of Whole Numbers (no regrouping, regrouping)
M3 Multiplication of Whole Numbers (no regrouping, regrouping)
M4 Division of Whole Numbers (no remainder, remainder)
M5 Decimals (addition, subtraction, multiplication, division)
M6 Fractions (addition, subtraction, multiplication, division)
M7 Integers (addition, subtraction, multiplication, division)
M8 Percents
M9 Algebraic Operations

Applied Mathematics

A1 Numeration (ordering, place value, scientific notation)
A2 Number Theory (ratio, proportion)
A3 Data Interpretation (graph, table, chart, diagram)
A4 Pre-Algebra and Algebra (equations, inequality)
A5 Measurement (money, time, temperature, length, area, volume)
A6 Geometry (angles, Pythagorean theory)
A7 Computation in Context (whole numbers, decimals, fractions, algebraic operations)
A8 Estimation (rounding, estimation)

Language

L1 Usage (pronoun, tense, subject–verb agreement, adjective, adverb)
L2 Sentence Formation (fragments, run-on, clarity)
L3 Paragraph Development (topic sentence, supporting sentence, sequence)
L4 Capitalization (proper noun, titles)
L5 Punctuation (comma, semicolon)
L6 Writing Conventions (quotation marks, apostrophe, parts of a letter)

Spelling

S1 Vowel (short, long)
S2 Consonant (variant spelling, silent letter)
S3 Structural Unit (root, suffix)

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[2] CTB/McGraw-Hill LLC. (1994). *Tests of adult basic education, forms 7 and 8.* Monterey, CA: Author.
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Appendix C: 21st Century Skills[3]

CS1 Global Awareness
- Using 21st century skills to understand and address global issues
- Learning from and working collaboratively with individuals representing diverse cultures, religions, and lifestyles in a spirit of mutual respect and open dialogue in personal, work, and community contexts
- Promoting the study of non-English language as a tool for understanding other nations and cultures

CS2 Financial, Economic, and Business Literacy
- Knowing how to make appropriate personal economic choices
- Understanding the role of the economy and the role of business in the economy
- Applying appropriate 21st century skills to function as a productive contributor within an organizational setting
- Integrating oneself within and adapting continually to our nation's evolving economic and business environment

CS3 Civic Literacy
- Being an informed citizen to participate effectively in government
- Exercising the rights and obligations of citizenship at local, state, national, and global levels
- Understanding the local and global implications of civic decisions
- Applying 21st century skills to make intelligent choices as a citizen

CS4 Information and Communication Skills
- Information and media literacy skills: Analyzing, accessing, managing, integrating, evaluating, and creating information in a variety of forms and media; understanding the role of media in society
- Communication skills: Understanding, managing, and creating effective oral, written, and multimedia communication in a variety of forms and contexts

CS5 Thinking and Problem-Solving Skills
- Critical thinking and systems thinking: Exercising sound reasoning in understanding and making complex choices, understanding the interconnections among systems
- Problem identification, formulation, and solution: Ability to frame, analyze, and solve problems
- Creativity and intellectual curiosity: Developing, implementing, and communicating new ideas to others, staying open and responsive to new and diverse perspectives

CS6 Interpersonal and Self-Directional Skills
- Interpersonal and collaborative skills: Demonstrating teamwork and leadership, adapting to varied roles and responsibilities, working productively with others, exercising empathy, respecting diverse perspectives
- Self-direction: Monitoring one's own understanding and learning needs, locating appropriate resources, transferring learning from one domain to another
- Accountability and adaptability: Exercising personal responsibility and flexibility in personal, workplace, and community contexts; setting and meeting high standards and goals for one's self and others; tolerating ambiguity

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[3] *21st century skills.* (n.d.). Washington, DC: Partnership for 21st Century Skills.

- Social responsibility: Acting responsibly with the interests of the larger community in mind; demonstrating ethical behavior in personal, workplace, and community contexts