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ABSTRACT

This "tech prep" state competency profile contains all the competencies required and recommended for entry-level employees in occupations in the health technologies cluster. Introductory materials include the following: descriptions of the different types of competencies (essential ones that must be included in all new tech prep programs and recommended ones), definitions that broadly describe occupations within the health technologies cluster, explanation of leveling codes used in the profile, summary (listing) of the competencies divided into 71 units, and a matrix that indicates whether a unit is required or recommended for each of 11 occupations. The occupations are as follows: radiographer, respiratory care therapist, physical therapist assistant, registered nurse--associate degree, medical laboratory technician, emergency medical technician, dental hygienist, health information technician, exercise technologist, ophthalmic technician, and medical assistant. The competencies categorized under units follow. Each competency is presented in a one-page format that indicates the unit, whether the competency is essential or recommended, the grade level (by the end of grade 12 or by the end of the associate degree) and the depth (introduce, reinforce or add depth, and proficient), academic code (communications, mathematics, or science related), the competency, and list of competency builders (more specific competencies). (YLB)

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Health Technologies

State Competency Profile

Columbus, Ohio

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Health Technologies State Competency Profile

This document is the result of collaboration between a number of individuals and organizations. The Ohio Department of Education and the Ohio Board of Regents provided financial and staff support for the development of the base document.

The current document is a result of a review by a state panel of business/industry/labor representatives and secondary/associate degree educators on March 26, 1998. (The name and institutional affiliation of each panel member is provided on the following pages.) Jan Eley, Akron Area Tech Prep Consortium; Linda Fauber, Lakeland Tech Prep Consortium; Julie Daugherty, Eastern Ohio Valley Tech Prep Consortium; and Jennie Royer, Stark County Tech Prep Consortium served as facilitators of the March 26, 1998.

On August 5, 1998, a panel of business/industry and secondary/associate degree educators was convened to finalize the Nursing (AD) portion of this document. The Medical Assistant portion was finalized during a December 15 meeting. (A list of Nursing and Medical Assistant Panel members is attached).

The following document is not intended to replace or in any way modify the existing requirements established by professional associations or accrediting bodies. It is rather intended to outline in competency form the essential and recommended skills needed by entry level employees in Health related occupations.

As you review the document, keep in mind the following:

Essential Competencies

Those competencies marked *Essential* in the State Competency Profile were determined by the statewide business/industry/labor panel to be necessary to ensure minimal levels of employability. Entry level employees should be able to perform this competency without supervision; therefore, students must be proficient in these competencies at least by the end of the Associate Degree.

Essential competencies must be included in all new Tech Prep programs. Tech Prep consortia with current programs in this area will be expected to phase-in essential competencies into their programs as well.

Wording of essential competencies may not be altered. The leveling may only be changed to deliver the competency earlier during the educational process. For example, the leveling of an essential competency in the State Competency Profile may be altered locally from a P or Proficiency leveling at the end of the Associate Degree to a P or Proficiency by the end of the 12th grade. The reverse is not permissible. For example, a competency leveled P or Proficient by the end of the 12th grade in the State Competency Profile cannot be changed to a P or Proficient by the end of the Associate Degree at the local level. For additional information on leveling of competencies, refer to the Leveling Code Sheet.

Competency builders are intended to help define each competency; therefore, the builders may be modified as long as that modification does not change or dilute the intent of the State Panel.

Issues which arise regarding delivery of the *essential* competencies once the program is implemented will be addressed by a State review panel of business/industry/labor and education representatives with possible revisions to the State Competency Profile at a later date. Any issues identified during the local verification meeting should be conveyed to Tech Prep Curriculum Services by the consortium coordinator.

Recommended Competencies

Competencies marked *Recommended* are suggested additions to the State Competency Profile. Each of these competencies should be reviewed during a local competency profile meeting, with a joint panel of business/industry/labor and education representatives deciding whether to include each competency in the local curriculum. The decision should be based upon a consideration of local business needs, as well as priorities and time constraints of the educational process. Wording and leveling of all recommended competencies and builders may be modified.

Additional Units/Competencies/Builders

Competencies and/or builders may be added to any unit in the State Competency Profile. Additional units may also be added.

Occupation Definitions

Skills may be added to the occupational definitions based on the modifications made during the competency review. Because the definition is based on the skills detailed in the competency profile, only minor modifications should be necessary.

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Occupational Definitions

Health Technologies Cluster

The following definitions broadly describe occupations within the Health Technologies Cluster. Occupational definitions are not job descriptions. They are broader in focus and provide general skill training directions.

Radiographer — An individual who performs diagnostic examinations and administers therapeutic procedures using x-rays and related radiations, under the supervision of radiologist. Technical skills should include, but **not** be limited to:

- conducting x-ray procedures
- equipment operation and maintenance
- evaluating radiographic images
- applying anatomy, physiology, positioning, and radiographic techniques
- determining exposure factors to achieve optimum radiographic results
- providing education related to radiologic procedures and safety
- monitoring quality assurance

Respiratory Care Therapist — An individual who performs therapeutic and life-support procedures using respiratory equipment under the supervision of a physician. Technical skills should include, but **not** be limited to:

- administering medications/oxygen via mist, mask, tent, or other procedures as prescribed by physician
- observe patient's reaction to treatment and record as needed
- managing ventilators and other intensive care therapies
- emergency procedures and airway assessment management
- equipment operation and maintenance
- storage and sterilization methods
- patient education
- medical ethics
- basic pharmacology
- infection control methods
- assessing condition of patient
- documentation skills

Physical Therapist Assistant — An individual who, under the supervision of a physical therapist, assists with patient examinations, treatment administration, and monitoring. Technical skills should include, but **not** be limited to:

- therapeutic exercises and massage
- heat, light, sound, water, and electrical modality treatments
- helping patient learn and improve functional activities in daily life
- fitting, adjusting, and training patient in the use and care of assistive devices
- observing patient during treatments and reporting progress to physical therapist
- demonstrating therapeutic exercises, modalities, and rehabilitation
- medical ethics

Registered Nurse — An individual who promotes health, assesses patient conditions, establishes plan of care based on diagnosis, directs or implements safe, effective, comforting, collaborative nursing care, and evaluates outcomes. Technical skills should include, but **not** be limited to:

- assess condition of the patient and support systems
- confer with physician on plan of care
- implement physician orders including prescribed treatments and medications
- evaluate outcomes of treatments and nursing interventions
- report and document observations and findings
- apply management, supervision, and delegation principles in planning and evaluating care
- teach and counsel patients and individuals in support system, including caregivers
- apply legal and ethical principles

Medical Laboratory Technician — An individual who performs standard clinical laboratory procedures and examinations under the direction and supervision of a pathologist, qualified physician or laboratory director. Technical skills should include, but **not** be limited to:

- laboratory instrument operation, calibration, and maintenance
- principles and methods of clinical chemistry, hematology, immunology, immunohematology, and microbiology
- medical laboratory safety procedures
- performing medical laboratory tests, procedures, examinations, and analysis
- microscopic and chemical analysis of body fluids
- analyzing test results and reporting results to medical practitioners
- infection control methods

Emergency Medical Technician — An individual who performs initial assessment and management, and provides continuous care to medical and trauma patients. Technical skills should include, but **not** be limited to:

- disease, disorder, and injury symptomology
- emergency medical procedures
- equipment operation and maintenance
- radio communications
- emergency pharmacology
- emergency vehicle operation
- mass casualty incident management

Dental Hygienist — An individual who practices the cleaning of teeth and related oral health therapies, either independently or in collaboration with dentists. Technical skills should include, but **not** be limited to:

- patient examination
- preventative oral health care
- oral health education
- dental hygiene therapy
- initial periodontal therapy
- dental radiography
- prosthetic cast creation

Health Information Technician — An individual who classifies medical information and prepares patient records that are complete, accurate, and coded according to standard medical/health care classification systems. Technical skills should include, but **not** be limited to:

- analysis of medical records
- accurate collection and preparation of statistical data
- coding of diseases, procedures, operations, and therapies
- quality assurance management
- transcription of medical reports
- responsible release of information to insurance companies, law firms, and government agencies
- maintenance and utilization of a variety of storage and retrieval systems
- processing, storage, and retrieval of computerized health information

Exercise Technologist —

To Be Determined

Ophthalmic Technician — An individual who performs the diagnostic testing and measurements used by the ophthalmologist in evaluating and treating eye diseases. Technical skills should include, but **not** be limited to:

- taking medical and ocular history
- conducting basic and advanced ocular measurements
- testing for ocular functions
- performing diagnostic tests
- administering topical ophthalmic medications
- apply patches and protective devices
- assisting in ophthalmic surgery
- instructing patients on contact lens care, preventive eye care, use of eye drops, and pre-operative and post-operative care

Medical Assistant — An individual who performs both administrative and clinical procedures in the ambulatory care setting under the supervision of a physician. Technical skills should include, but **not** be limited to:

- assess condition of the patient and support systems
- implement physician orders including treatment and medications
- report and document observations and findings
- apply legal and ethical principles
- teach and counsel patients and individuals in support system including caregivers
- coding of diseases, procedures, operations and therapies
- transcription of medical report
- collect and prepare patient record

Health Technologies Tech Prep Competency Profile Matrix

RAD = Radiographer
RCT = Respiratory Care Therapist
PTA = Physical Therapist Assistant
RNA = Registered Nurse—Associate Degree
MLT = Medical Laboratory Technician

EMT = Emergency Medical Technician
DHY = Dental Hygienist
HIT = Health Information Technician
ET = Exercise Technologist
OPH = Ophthalmic Technician
MA = Medical Assistant

Page #	UNIT	RAD	RCT	PTA	RNA	MLT	EMT	DHY	HIT	ET	OPH	MA
1	Employability Skills	X	X	X	X	X	X	X	X	X	X	X
11	Professionalism	X	X	X	X	X	X	X	X	X	X	X
21	Teamwork	X	X	X	X	X	X	X	X	X	X	X
25	Professional Practices	X	X	X	X	X	X	X	X	X	X	X
29	Workplace Safety	X	X	X	X	X	X	X	X	X	X	X
31	Project Management	X	X	X	X	X	X	X	X	X	X	X
36	Problem Analysis	X	X	X	X	X	X	X	X	X	X	X
39	General Administrative Functions	X	X	X	X	X	X	X	X	X	X	X
43	Economic and Business Principles	X	X	X	X	X	X	X	X	X	X	X
53	Basic Computer Concepts and Applications	X	X	X	X	X	X	X	X	X	X	X
74	Documentation	X	X	X	X	X	X	X	X	X	X	X
76	Infection Control and Risk Management	X	X	X	X	X	X	X	X	X	X	X
85	Medical Terminology	X	X	X	X	X	X	X	X	X	X	X
87	Anatomy, Physiology, and Pathology	X	X	X	X	X	X	X	X	X	X	X
102	Medical Law and Ethics	X	X	X	X	X	X	X	X	X	X	X
107	Psychology of Stress	X	X	X	X	X	X	X	X	X	X	X
111	Psychology of Human Relations	X	X	X	X	X	X	X	X	X	X	X
116	First Aid and Medical Emergencies	X	X	X	X	X	X	X	X	X	X	X

X = Unit required for the occupation.

R = Unit recommended for the occupation (local review necessary).

* = Competencies should be addressed in a manner applicable to the occupation.

RAD = Radiographer
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OPH = Ophthalmic Technician
MA = Medical Assistant

Page #	UNIT	RAD	RCT	PTA	RNA	MLT	EMT	DHY	HIT	ET	OPH	MA
120	General Administrative Duties *	X	X	X		X	X	X	X	X	X	X
132	General Administrative Duties for Medical Assistant *											X
144	Vital Signs *	X	X	X	X	X	X	X	X	X	X	X
150	Nutrition		X	X	X			X	X	X		X
154	Basic Pharmacology *	X	X	X	X		X	X		X	X	X
159	Patient Education *	X	X	X	X		X	X	X	X	X	X
163	Examinations *	X	X	X		X	X		X	X	X	X
173	Examinations for RNA				X							
176	Clinical Assessment		R		X							X
179	Radiography	X										
197	Respiratory Care		X									
229	Physical Therapy			X								
245	The Nursing Process	R			X						R	
252	Nursing Communication Skills		R		X							
261	Nursing Clinical Procedures				X							
267	Medication Use	X	X								X	
271	Clinical Chemistry					X						
290	Immunohematology					X						
304	Immunology and Serology					X						
312	Bacteriology					X						

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Page #	UNIT	RAD	RCT	PTA	RNA	MLT	EMT	DHY	HIT	ET	OPH	MA
327	Parasitology					X						
332	Urinalysis					X						
340	Hematology					X						
351	Phlebotomy	R	X			X	X					X
359	Emergency Medical Technology I		X				X					
370	Emergency Medical Technology II		R				X					
380	Emergency Medical Services	R	R	R			X					
410	Oral Anatomy and Pathology I			X				X				
414	Oral Anatomy and Pathology II							X				
421	Chairside Procedures							X				
438	Extraoral and Interoral Exams							X				
442	Preventive Oral Hygiene Procedures							X				
451	Dental Morphology							X				
455	Dental Radiography	X						X				
472	Preventive Dental Assisting Procedures							X				
475	Dental Specialties							X				
483	Dental Materials I							X				
486	Dental Materials II							X				
490	Dental Hygiene							X				
495	Health Information Processing								X			
500	Health Information Maintenance								X			

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Page #	UNIT	RAD	RCT	PTA	RNA	MLT	EMT	DHY	HIT	ET	OPH	MA
506	Health Information Clerical Functions								X			
513	Health Information Quality Control								X			
524	Health Information Report Preparation								X			
526	Health Information Supervision								X			X
530	Medical Assisting X-ray Operator											X
546	Medical Assisting Respiratory Care											X
560	Medical Assisting Physical Therapy											X

X = Unit required for the occupation.
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Unit: Employability Skills

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Develop a career plan

Competency Builders:

- Identify current interests and aptitudes
- Identify common barriers to employment
- Describe strategies to overcome employment barriers
- Locate resources for finding employment
- Research job trends
- Identify career options
- Identify advantages and disadvantages of career options (in addition to monetary)
- Identify job requirements
- Investigate education/training opportunities (including speaking with someone in the trade)
- Evaluate personal strengths and weaknesses
- Refine a written educational plan which leads to a specific career field
- Create career passport

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Prepare for employment

Competency Builders:

- Identify employment sources
- Identify advantages and disadvantages of self-employment
- Identify present and future employment opportunities (by geographic location)
- Research job opportunities
- Compare salary ranges and benefit packages
- Compile occupational profile
- Identify rights and responsibilities of equal employment opportunity laAC
- Demonstrate ability to accurately complete a job application
- Design resume and cover letter
- Target resume
- Secure references
- Investigate generic and specific employment tests (e.g., civil service exam; drug screening)
- Use follow-up techniques to enhance employment potential
- Demonstrate legible written communication skills using correct grammar, spelling, punctuation, and concise wording
- Use proper diction in interviews
- Describe methods for handling illegal questions on job application forms and during interviews
- Write letter of application
- Research prospective employer and services performed
- Explain critical importance of personal appearance, hygiene, and demeanor
- Interpret job description
- Demonstrate appropriate interview question and answer techniques
- Demonstrate methods for handling difficult interview questions using simulated role playing exercises
- Describe procedures for following up after an interview
- Evaluate job offers

Give notice to employer of job change

Write letter of acceptance

Write letter of declination

Demonstrate good listening skills

Ask for the job tactfully

Participate in extracurricular activities (e.g., student government, community projects)

BIL: Essential

EDU:	12	AD	AC
	P		C

Competency: Evaluate the importance of self-esteem as an employability skill

Competency Builders:

Identify factors that affect self-esteem

Compare effects of low self-esteem and high self-esteem

Identify strategies to promote positive self-esteem

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Demonstrate job retention skills

Competency Builders:

- Identify employer expectations regarding job performance, work habits, attitudes, personal appearance, and hygiene
- Exhibit appropriate work habits and attitude
- Demonstrate ability to set priorities
- Identify behaviors to establish successful working relationships
- Identify alternatives for dealing with harassment, bias, and discrimination based on race, color, national origin, sex, religion, handicap, or age
- Identify opportunities for advancement
- List reasons for termination
- List consequences of being absent frequently from job
- List consequences of frequently arriving late for work
- Demonstrate interpersonal relations skills (i.e., verbal and written)
- Demonstrate negotiation skills
- Demonstrate teamwork
- Follow chain-of-command
- Exhibit appropriate job dedication

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Demonstrate knowledge of work ethic

Competency Builders:

Define work ethic

Identify factors that influence work ethic

Differentiate law and ethics

Describe how personal values are reflected in work ethic

Describe how interactions in the workplace affect personal work ethic

Describe how life changes affect personal work ethic

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Exhibit appropriate work ethic

Competency Builders:

- Use time-management techniques
- Avoid personal activity during work hours
- Attend work as scheduled
- Adhere to company and/or governmental policies, procedures, rules, and regulations
- Exercise confidentiality
- Demonstrate appropriate human relations skills
- Adhere to rules of conduct
- Accept constructive criticism
- Offer constructive criticism
- Take pride in work
- Resolve conflict
- Manage stress
- Avoid sexual connotations and harassment
- Adjust to changes in the workplace
- Demonstrate punctuality
- Assume responsibility for personal decisions and actions
- Take responsibility for assignments
- Follow chain-of-command

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Apply decision-making techniques

Competency Builders:

Identify decision to be made

Identify possible alternatives and their consequences

Make decisions based on facts, legality, ethics, goals, and culture

Apply time factor(s)

Present decision to be implemented

Evaluate decision made

Take responsibility for decision

Identify ownership of decision to be made

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Apply problem-solving techniques

Competency Builders:

Identify problem

Select appropriate problem solving tools/techniques

Identify root problem cause(s)

Track root problem cause(s)

Identify possible solutions and their consequences (e.g., long term, short term, crisis)

Use resources to explore possible solutions to problem

Contrast advantages and disadvantages of each solution

Identify appropriate action

Evaluate results

Identify post-preventive action

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Exhibit characteristics for job advancement

Competency Builders:

Display positive attitude

Demonstrate knowledge of position

Perform quality work

Adapt to changing situations and technology

Demonstrate capability/responsibility for different positions

Identify characteristics of effective leaders

Identify opportunities for leadership in work place/community

Demonstrate initiative to affect change in workplace

Participate in continuing education/training program

Respond appropriately to criticism from employer, supervisor, or other employees

Exhibit awareness of corporate culture

Prepare for job setbacks

Exhibit continual growth based on performance evaluation

Set realistic goals

Unit: Professionalism

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Project professional image

Competency Builders:

Define professionalism

Exhibit professional appearance

Exhibit professional manners

Project professional attitude

Identify individual's vital role in organization

Exhibit proper etiquette in professionally-related situations

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Formulate individual and professional goals

Competency Builders:

- Set flexible, realistic, and measurable goals
- Identify potential barriers to achieving goals
- Identify strategies for addressing barriers to goal achievement
- Breakdown long-term goals into short-term goals
- Prioritize goals
- Commit to goals
- Adjust goals
- Obtain support for goals
- Reward goal achievement

BIL: Recommended

EDU:	12	AD	AC
	I	P	M

Competency: Organize personal finances

Competency Builders:

Explain need for personal management records

Balance checkbook

Identify tax obligations

Analyze how credit affects financial security

Compare types and methods of investments

Compare types and methods of borrowing

Compare types and methods of insurance

Compare types of retirement options/plans

Identify discretionary vs. non-discretionary expenditures

BIL: Recommended

EDU:	12	AD	AC
	I	R	

Competency: Support community well-being

Competency Builders:

- Identify environmental, educational, and social issues
- Participate in social and/or community/industry activities
- Participate in industry activities and organization

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Achieve organizational goals

Competency Builders:

- Evaluate personal goals in relation to organizational goals
- Monitor progress by evaluating feedback
- List responsibilities in relation to organizational goals
- Accomplish assigned tasks
- Exercise responsibility in relation to organizational goals
- Set appropriate personal performance standards
- Communicate goals with supervisor and peers
- Demonstrate knowledge of products and services
- Promote organizational image and mission

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate positive relations in the workplace

Competency Builders:

- Identify personality types
- Identify methods of working with various personalities
- Identify various management styles
- Support organization expectations
- Support organization decisions
- Accept constructive criticism
- Give constructive feedback
- Adapt to changes in workplace
- List factors to consider before resigning
- Write letter of resignation

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Manage stressful situations

Competency Builders:

- Accept stress as part of daily life
- Identify personal and professional factors contributing to stress
- Describe physical and emotional responses to stress
- Evaluate positive and negative effects of stress on productivity
- Identify strategies for reducing stress
- Identify positive methods to channel stress
- Implement strategies to manage stress
- Create strategies for developing and maintaining support systems

BIL: Recommended

EDU:	12	AD	AC
	P	R	C

Competency: Analyze effects of family on work and work on family

Competency Builders:

- Identify how family values, goals, and priorities are reflected in work place
- Identify responsibilities and rewards associated with paid and non-paid work
- Identify responsibilities and rewards associated with families
- Explain how family responsibilities can conflict with work
- Explain how work can conflict with family responsibilities
- Explain how work-related stress can affect families
- Explain how family-related stress can affect work
- Identify family support systems and resources
- Identify work-related support systems and resources
- Communicate with family regarding work

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Apply lifelong learning skills

Competency Builders:

- Define lifelong learning
- Identify factors that cause need for lifelong learning
- Analyze effects of change
- Identify reasons why goals change
- Describe importance of flexibility and adaptability
- Evaluate need for continuing education/training

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Manage professional development

Competency Builders:

- Identify career opportunities
- Modify career plan
- Participate in continuing education/training opportunities
- Document continuing education/training
- Read profession-related manuals, technical journals, and periodicals
- Attend meetings, workshops, seminars, conferences, and demonstrations
- Participate in professional organizations
- Build personal/professional mentor relationship
- Build personal/professional support system
- Build professional network
- Strengthen communication skills
- Strengthen leadership skills
- Strengthen management skills

Unit: Teamwork

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate knowledge of teamwork

Competency Builders:

- Define self-direction
- Define responsibility
- Define accountability
- Differentiate work groups and teams (i.e., internal, external)
- Identify conditions essential to teamwork (e.g., problem solving)
- Explain influence of culture (e.g., corporate, community) on teamwork
- Identify appropriate situations for using teams
- Define team structures (e.g., cross functional, quality improvement, task force, quality circles)
- Identify team building concepts
- Describe characteristics and dynamics of teams
- Identify characteristics of effective team leaders and members
- Identify responsibilities of team members
- Identify methods of involving each member of a team
- Explain how individuals from various backgrounds contribute to work-related situations (e.g., technical training, cultural heritage)
- Explain the purpose of facilitators
- Define consensus
- Define reward/recognition system
- Define mutual respect
- Define equality
- Define "group think"
- Provide feedback
- Receive feedback
- Define communication styles
- Define management styles
- Define social style

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate teamwork

Competency Builders:

Identify purpose of team and intended goal (include time frames)

Structure team around purpose

Define responsibilities of team members (e.g., talents, skills, abilities)

Contribute to efficiency and success of team

Work toward individual and team milestones

Analyze results of team project

Facilitate a team meeting

Assist team member(s) with problem

Monitor time frame

Stress continuous improvement

Recognize failure as part of learning

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Use teamwork to solve problems

Competency Builders:

Identify appropriate situations for using teams

Identify quality management processes/techniques

Identify quality assurance processes/techniques

Prepare presentation (e.g., business plan & procedure)

Identify problem

Use problem-solving process in a team setting (e.g., Brainstorm, Pareto, Fishbone)

Identify resources

Gather data

Analyze data

Describe solution options

Implement solution options

Review solution

Review case studies

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Conduct team meetings

Competency Builders:

- Plan agenda
- Set ground rules
- Schedule meeting and location
- Set time limitations
- Invite appropriate personnel
- Set next team meeting
- Solicit outside speakers as needed
- Select scribe
- Select meeting leader
- Facilitate ground rules
- Select facilitator
- Invite questions and comments and group participation
- Focus team on agenda items
- Assign appropriate action, budget, time frame and accountability to tasks
- Monitor time
- Overcome team impasse
- Close meeting on time
- Publish minutes in timely manner
- Avoid placing individual agendas above the group's agenda

Unit: Professional Practices

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Explain professional responsibilities

Competency Builders:

- Explain the need for professional and ethical standards
- Explain responsibility of the individual to apply ethical standards
- Identify responsibility to client(s) and employer(s)
- Explain consequences of unprofessional and/or unethical behavior
- Explain importance of conflict resolution in the workplace

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Identify legal and ethical behavior

Competency Builders:

Differentiate between legal and ethical behavior

Explain terms, principles, and characteristics of legal and ethical behavior (e.g., loyalty, discretion, solicitation, competitor, supplier)

Explain legal ramifications of breaching rules and regulations

Explain effects of unethical and/or unlawful behavior

Practice within scope of the profession

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Function as a self-managed employee

Competency Builders:

- Propose project (C)
- Organize tasks
- Manage time
- Meet deadlines
- Maintain business records (C)
- Make long-term and short-term plans
- Evaluate progress
- Report progress (C)
- Delegate project
- Acquire appropriate licenses/registrations
- Obtain permits and releases

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Follow intellectual property rights and copyright laws

Competency Builders:

- Explain purpose of patent
- Explain purpose of copyright
- Explain purpose of licenses
- Explain purpose of trademarks
- Explain rights of the originator
- Explain rights of the public
- Define confidentiality
- Define proprietary
- Explain legal ownership of proprietary material
- Describe stock image/text usage rights
- Explain negotiation of contracts
- Explain reproduction licensing and residual usage

Unit: Workplace Safety

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Maintain safe working environment

Competency Builders:

Describe what an MSDS sheet is

Comply with HMIS material safety data sheets (MSDS) and OSHA regulations

Comply with all MSDS regulations regarding hazardous materials

Maintain clean work area by removing waste, keeping alleyways clear, cleaning tools, and preventing spills

Minimize workplace causes of environmental burdening, pollutants, and poisoning

Describe pollution solution limits imposed by permits and regulations

Comply with regulatory guidelines in handling, labeling, and disposal of solutions (e.g., fountain chemicals, inks, wash-up solutions, drum grounding)

Identify visual equipment controls (e.g., monitors, read outs)

Identify auditory equipment controls

Comply with workplace safety rules and procedures

Comply with personal safety rules and procedures

Comply with applicable electrical, mechanical, hydraulic and pneumatic safety rules and procedures

Recycle appropriate materials

Use preventive maintenance checklists

Identify location of control panels, shut-off valves, and fire extinguishers

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Demonstrate knowledge of ergonomics

Competency Builders:

Define ergonomics

Define risk factor

Define maximum permissible limit (MPL) and action limit (AL) for lifting

Define cumulative trauma disorder (CTD)

Identify susceptibility factors for CTD

Minimize extreme joint movement

Minimize use of excessive muscle/physical force

Minimize repetitive tasks

Minimize mechanical stresses (e.g., sharp edges, heat, cold, hard surfaces, weights, vibration)

Minimize awkward body positions

Explain use of rest pauses

Explain need for mats and footrest for standing jobs

Explain need for appropriate working heights of chairs, stools, workbenches, equipment

Explain need for adequate lighting

Explain use of anthropometric (i.e., centering one's view of everything around man) design

Unit: Project Management

BIL: Essential

EDU:	12	AD	AC
	P	R	C,M

Competency: Explain project management

Competency Builders:

Identify project purpose/goal

Identify project objectives

Identify work breakdown structure (WBS)

Identify resource requirements

Identify project economics/funding

Identify risks

BIL: Recommended

EDU:	12	AD	AC
	I	P	M

Competency: Plan projects

Competency Builders:

Apply responsibility assignment matrix (RAM)

Apply Gantt or bar charts

Apply network diagrams

Apply critical path method (CPM)

Apply project education and review techniques (PERT)

Apply software programs

BIL: Essential

EDU:	12	AD	AC
	P	R	C,M,S

Competency: Implement projects

Competency Builders:

Monitor project

Control project

Modify project

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Evaluate projects

Competency Builders:

Analyze performance

Perform critical review of project

Draw project management conclusions

BIL: Recommended

EDU:	12	AD	AC
	I	P	C

Competency: Write project summary

Competency Builders:

- List project goals
- Document project's key successes
- Document project's key failures
- Analyze costs vs. accomplishments

Unit: Problem Analysis

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Appraise situations

Competency Builders:

Identify concerns

Set priorities

Identify resolution process

Plan resolution

BIL: Recommended

EDU:	12	AD	AC
	I	P	S

Competency: Analyze problems

Competency Builders:

Identify potential problems

Identify likely causes

Test for probable causes

Verify cause

Identify preventive actions

Identify contingent actions

BIL: Recommended

EDU:	12	AD	AC
	I	P	S

Competency: Analyze decisions

Competency Builders:

- Identify objective(s)
- Identify alternatives
- Evaluate alternatives
- Assess risks
- Make final choice
- Determine effectiveness of decision
- Document results

Unit: General Administrative Functions

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Maintain work flow

Competency Builders:

- Organize work
- Prioritize work
- Apply time-management techniques
- Complete assigned tasks in a timely manner
- Coordinate with team members

BIL: Recommended

EDU:	12	AD	AC
	P	R	C

Competency: Perform telecommunications operations

Competency Builders:

- Display telephone etiquette
- Operate equipment
- Listen assertively
- Verify information
- Record messages
- Place calls
- Organize teleconferences
- Use voice mail/messaging systems
- Operate fax/modem machine
- Use e-mail systems
- Use Internet communications services
- Use videoconference facilities

BIL: Recommended

EDU:	12	AD	AC
	P	R	

Competency: Perform scheduling functions

Competency Builders:

Create calendar/schedule

Maintain and use appointment calendars with accurate addresses and phone numbers

Process requests for appointments

Verify appointments

BIL: Recommended

EDU:	12	AD	AC
	I	P	

Competency: Manage records

Competency Builders:

- Implement filing system
- Implement retention system
- Perform electronic filing operations
- Maintain inventory records
- Retrieve files

Unit: Economic and Business Principles

BIL: Essential

EDU:	12	AD	AC
	I	P	M

Competency: Describe basic economic concepts

Competency Builders:

- Identify importance of economic resources
- Explain concept of economic resources
- Explain importance of economic resources
- Explain concept of economic goods and services
- Differentiate between economic goods and services
- Differentiate between needs and wants
- Explain concept of supply and demand
- Explain concept of price
- Explain how supply, demand, and price are related
- Explain concept of private enterprise and business ownership
- Explain concept of profit
- Explain concept of risk
- Explain concept of competition
- Explain relationship among risk, competition, and profit
- Describe global economic and world markets
- Describe economic cycles (e.g., unemployment, recession, inflation, budget deficits)
- Describe economic arena's effect on business (e.g., financial, competitor indicators, industry)

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe economic systems

Competency Builders:

- Describe free enterprise system
- Describe relationship between government and business
- Describe relationship between labor and management
- Compare types of economic systems

BIL: Essential

EDU:	12	AD	AC
	I	P	M

Competency: Understand income statement data

Competency Builders:

- Identify revenue
- Identify overhead expenses
- Identify fixed expenses
- Identify direct labor
- Identify indirect labor
- Identify direct and indirect materials
- Identify general and administrative expenses
- Identify selling expenses
- Identify net income

BIL: Recommended

EDU:	12	AD	AC
		P	M

Competency: Explain equipment depreciation

Competency Builders:

- Explain straight line
- Explain sum of year's digits
- Explain declining balance
- Explain IRS strategies

BIL: Essential

EDU:	12	AD	AC
	I	P	M

Competency: Identify cost and profit influences

Competency Builders:

Explain importance of loss prevention

Explain importance of maximizing quality

Explain importance of maximizing productivity

Differentiate between specialized training and cross training

Explain labor, management, and government influences on cost /profit

Explain cost/profit influences of retraining

Define impact of seasonal business cycles

BIL: Recommended

EDU:	12	AD	AC
	I	P	M

Competency: Describe economic indicators and trends A

Competency Builders:

Define gross national product and gross domestic product

Define national debt

Define impact of interest rates

Define impact of government spending

Define impact of seasonal business cycles

Define impact of inflation, growth, recession, and unemployment

Define impact of national and world events

Define impact of the growth of international trade

BIL: Recommended

EDU:	12	AD	AC
	I	P	M

Competency: Explain international trade

Competency Builders:

Describe nature and importance of international trade

Explain marketing in international trade

Explain balance of trade concepts

Describe impact of foreign investment

Describe the influence of national debt

Describe the effect of currency exchange rates on international trade

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain basic business concepts

Competency Builders:

- Identify functions of business
- Explain role of management
- Explain role of labor
- Explain concept of service as a product
- Explain role of administration
- Explain role of operations
- Identify role of company objectives
- Identify importance of ethical business practices
- Identify types of ownership
- Identify components of a business plan
- Calculate break even and payback
- Explain role of depreciation in business decisions
- Explain role of capital gains
- Describe business reporting and information flow
- Map interface of departmental functions
- Describe business communication channels (e.g., formal, informal)
- Explain basic total quality management (TQM/ISO) principles
- Explain the effects of bankruptcy

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain legal concepts

Competency Builders:

Define legal terminology

Explain business law concepts

Identify contracts and/or legal documents

Explain relationship of laws and regulations to company contracts, policies, and procedures

Identify laws relating to working conditions, wages and hours, civil rights, social security, disability, unemployment insurance, and exempt vs. nonexempt

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain role of marketing

Competency Builders:

- Identify aspects of sound business image
- Explain purposes of marketing
- Describe functions of marketing
- Describe effects of marketing
- Identify target markets
- Define sales potential
- Explain pricing strategies
- Differentiate among advertising campaigns
- Explain functions of advertising agencies
- Describe sales incentive programs
- Differentiate among types of marketing strategies (e.g. phone, mail, person)

Unit: Basic Computer Concepts and Applications

BIL: Essential

EDU:	12	AD	AC
	P	R	C,M

Competency: Describe personal computer operations

Competency Builders:

- Explain how data is stored in main computer memory
- Explain how computer system executes program instruction
- Explain computer storage capacity
- Explain how data is represented
- Describe data storage devices
- Identify types of memory
- Describe back-up and archival disciplines

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Explain information processing cycle

Competency Builders:

Describe computer languages and their use (e.g., machine, postscript, proprietary, graphic description)

Describe difference between data files and program files

Explain PC/Mac layout

Explain PC/Mac network layout

Explain mini/mainframe network layout

Differentiate among hardware, software, and firmware

Differentiate between open from proprietary architecture

Explain upload/download

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Explain operating systems

Competency Builders:

Identify operating systems and their attributes (i.e., DOS, Unix, Macintosh, windows)

Describe compatibility issues

Identify cross-platform file conversion tools

Describe how commands handle tasks in operating systems

Describe various input/output systems

Describe the purpose of operating system utilities

Differentiate between a compiler and an interpreter

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Demonstrate basic computer literacy

Competency Builders:

Create directories/folders and sub-directories

Format disks

Manipulate files (copy, rename, delete)

Keyboard proficiently by touch

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Operate computer hardware

Competency Builders:

Practice proper media handling techniques (e.g., magnetic fields, dust, liquids)

Identify hardware and its use

Use hardware (e.g., printers, modems, touch screen, digitizers, plotters, graphic tablets, scanners, film recorders, video, laser image setters)

Demonstrate basic care of hardware

Explain need for and application of security levels/procedures

Perform basic hardware troubleshooting

Explain hardware addressing techniques

Maintain usage and maintenance logs

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Explain operation of peripheral devices

Competency Builders:

- Identify peripherals and operating requirements of each
- Identify primary devices used for personal computer auxiliary storage
- Describe how data is stored on diskettes and hard drives
- List speed and storage capacities of computer auxiliary storage devices
- Describe attributes of diskettes and hard disks regarding speed and storage capacity
- List types of disk storage used with large computer systems
- Define role of tape storage in relation to personal and large computers
- Describe security issues
- Explain purpose of input devices (e.g., keyboard, mouse, scanners, pens, bar code readers, credit/debit/smart cards, voice, video, gloves)
- Describe operation of output devices (e.g., voice, speaker output devices, printers, plotters, printer sharing units, SCSI interface, video display)
- Describe operation of multimedia (e.g., video, audiosound)
- Describe operation of storage devices (e.g., tape, disk, CD-ROM)

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Operate peripheral devices

Competency Builders:

- Use appropriate reference materials
- Load media devices
- Start media devices
- Unload media devices
- Import, edit, and export video and audio
- Set up print devices
- Operate scanner devices
- Operate print devices
- Maintain print devices
- Monitor peripheral equipment operations
- Perform routine maintenance on peripheral devices
- List appropriate control procedures
- Transmit via modem
- Receive via modem
- Search a CD-ROM library
- Print information from a CD-ROM library
- Describe device driver

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Store media

Competency Builders:

Identify need for data library

Retrieve stored media (e.g., on-line, off-line, permanent, off-site)

File stored media (e.g., on-line, off-line, permanent, off-site)

Initialize media

Catalog media

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Explain software applications

Competency Builders:

- Define software types and functions
- Describe need for application software
- Describe different types of software applications
- Explain advantages and disadvantages of integrated and dedicated software
- List software sources
- Explain software copyright laws
- Explain data compression techniques
- Explain use of passwords/security
- Utilize desktop productivity tools

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Use word processing packages

Competency Builders:

- Define word processing terminology
- Explain functions of word processing software
- Explain word processing applications
- Use appropriate reference materials
- Keyboard efficiently by touch
- Use mouse
- Initialize diskette
- Prepare backup file
- Maintain backup file
- Update spelling dictionary and spell check
- Perform document functions (e.g., locate, rename, delete, save, retrieve, copy)
- Perform formatting functions (e.g., center, underline, bold, cut and paste)
- Use edit features
- Use sort features
- Add page numbers to document
- Add headers and footers
- Print files, pages, screens and blocks of text
- Verify accuracy of output
- Create a document
- Save a document to disk
- Retrieve a document from disk
- Edit an existing document
- Describe word-wrap
- Print a document
- Store boilerplate material (e.g. templates, stationary files)
- Compose documents at keyboard
- Tabulate multiple columns

Prepare new documents from existing ones
Merge selected copy with new information
Prepare various types of table options
Format text
Integrate database, spreadsheet and graphic files
Convert documents from one system to another
Demonstrate use of computer thesaurus
Use multimedia techniques/resources
Perform merge functions

BIL: Essential

EDU:	12	AD	AC
	I	P	M

Competency: Use spreadsheet packages

Competency Builders:

- Define spreadsheet
- Demonstrate knowledge of basic spreadsheet terminology
- Define components of spreadsheets
- Describe implementation of spreadsheet operations in business scope
- Use spell check
- Execute an electronic spreadsheet
- Enter data, formulas, and functions
- Differentiate between labels and numbers
- Speculate using "what if..." questions
- Sequence keystrokes in the creation of a macro
- Create database within spreadsheet and perform data query functions
- Move around in spreadsheet and correct errors
- Format spreadsheet
- Create graphs
- Print graphs
- Save previously saved files
- Load previously saved files
- Replicate cells using copy commands
- Use electronic spreadsheet to complete business application
- Use spreadsheet to plan financial strategies
- Prepare spreadsheet
- Use multimedia techniques/resources

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Use databases

Competency Builders:

- Define database
- Explain terms used in database systems
- Describe common functions of database systems
- Use database to create, input, edit, and display fields and records
- Analyze structure of database files
- Perform calculations with a database file
- Alter structure of database file
- Sort records based on multiple fields
- Identify advanced database technology
- Use appropriate reference materials
- Utilize relational database
- Enter elements into database
- Proofread database
- Explain database
- Design report formats
- Transfer data to and from remote database
- Print reports using data from multiple databases
- Use database files with other application software
- Verify accuracy of output (e.g., edit reports)

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Use graphic user interface (GUI) techniques

Competency Builders:

Describe a variety of computer interfaces

Explain multi-tasking environment

Setup data exchange between two different applications

Setup an object link between two different applications

Explain the use of dynamic link libraries

Transfer data from instruments to other computers

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Manage software packages

Competency Builders:

Install software packages

Upgrade software packages

Document installation and upgrade of software packages

Apply security levels/procedures to sensitive data

Understand software memory allocation

Manage software preferences

Manage software conflicts

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Maintain computer security requirements

Competency Builders:

- Apply business ethics
- Follow security rules, regulations, and codes
- Implement security procedures
- Document security procedures
- Perform security checks

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Maintain personal computer systems

Competency Builders:

- Monitor system status and performance
- Run diagnostics
- Report computer system malfunction(s)
- Report software malfunction(s)
- Fix recoverable files
- Maintain security
- Maintain computer log
- Perform backup procedure(s)
- Perform preventive maintenance
- Follow log-off and power-down procedure(s)
- Follow equipment maintenance procedures
- Follow quality control procedures

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Demonstrate basic knowledge of networks

Competency Builders:

Explain communications standards

Describe network structures

Explain network types and protocols

Explain network connectivity

Explain the function of servers in a graphic network

Describe various network operating systems

Explain the difference between network software and individual use software

Use a network to access, file, and store files

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Use a shared environment

Competency Builders:

List purposes of a network environment

Define electronic mail

Identify advantages and disadvantages of electronic mail

Describe impact of local & wide area networks on mail delivery

Compose electronic messages

Send electronic messages using appropriate format

List categories of electronic mail service

Transmit document using electronic mail system

Monitor electronic mail

Use networked environments

Search database for properties of materials

Conduct literature searches using a variety of on-line tools

Explain access, security, transmission and retrieval

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Demonstrate knowledge of the Internet

Competency Builders:

Define the Internet

Explain how the Internet works

Explain Internet capabilities and limitations

Explain how to connect to the Internet via modem, ISDN, etc.

Install Internet software

Navigate the World Wide Web

Identify services and tools offered on the Internet

Use services and tools offered on the Internet

Explain bookmarks

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Use the Internet for research

Competency Builders:

- Define how the Internet can be used for research
- Use services and tools offered on the Internet for research
- Identify search engines
- Use search engines
- Evaluate Internet resources and accuracy of information
- Access library catalogs on the Internet
- Access commercial and government resources
- Download files

Unit: Documentation

BIL: Essential

EDU:	12	AD	AC
	I	P	M,S,C

Competency: Demonstrate proficiency in technical documentation

Competency Builders:

Record data

Maintain test logs, if applicable

Compile cumulative reference notebook/record

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Demonstrate proficiency in technical report writing

Competency Builders:

Write out procedures

Design charts and graphs

Outline reports

Write reports

Present reports

Complete equipment failure reports

Compose technical letters and memoranda

Write formal reports

Demonstrate ability to use cross reference/technical manuals

Unit: Infection Control and Risk Management

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Comply with local, state, and federal regulations

Competency Builders:

Explain state and federal governmental roles in universal/standard precautions as outlined by the Centers for Disease Control (CDC)

Comply with Occupational Safety and Health Administration (OSHA) regulations

Explain purpose of Material Safety Data Sheets (MSDS)

Comply with Environmental Protection Agency (EPA) regulations

Report communicable diseases to local health authorities

Use precautions to prevent contamination

Demonstrate use of fire and safety equipment

Correct safety hazards

Write incident reports for accidents or safety infractions

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Comply with environmental safety standards, accident prevention methods, and disaster plans

Competency Builders:

- Observe environmental safety rules of facility
- Identify potential hazardous situations
- Explain universal precautions to transmission of infectious diseases (e.g., HIV/AIDS, hepatitis)
- Identify fire prevention methods, fire control, fire alarm systems, and fire reporting procedures
- Demonstrate use of fire extinguisher
- Identify facility disaster plan
- Demonstrate safety precautions for using equipment
- Demonstrate safety precautions for using liquids and poisonous substances
- Conduct safety inspection of client area
- Correct safety hazards (e.g., spills)
- Complete incident reports for accidents or safety infractions
- Identify legal implications of accidents in health care facility
- Explain potential sources of hazards, (e.g., fire, electrical, chemical, biological, radioactive)
- Follow procedures for hazardous situations (e.g., eye and face wash, shower, fire extinguishers)
- Store materials properly
- Label materials properly
- Follow manufacturer's instructions for safe operation of all equipment and instruments

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Maintain personal safety and hygiene

Competency Builders:

Use universal/standard precautions

Demonstrate isolation techniques

Wash hands aseptically

Use eye/faceshield protection

Wear gloves

Wear mask

Wear uniform or professional attire

Apply principles of aseptic techniques and sterility

Practice proper hygiene

Immunize self against communicable diseases

Complete incident reports as required

Demonstrate proper body mechanics

Identify safe and effective sterilizing methods for instruments and equipment

Demonstrate safe and effective use of safety equipment

Identify at-risk behaviors which promote the spread of HIV/AIDS and/or hepatitis

Differentiate fact from fallacy regarding the transmission of HIV/AIDS and hepatitis

Identify principles of ergonomics

Identify common causes of back injuries

Demonstrate proper body mechanics involved in lifting, moving, transferring, ambulating, and positioning patient

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Maintain infection control of work area

Competency Builders:

- Identify modes of transmission of infection
- Identify methods for preventing infection transmission
- Differentiate between bacteriostatic and bacteriocidal
- Identify disinfection techniques
- Define "nosocomial infection"
- Identify terms related to cleaning and disinfecting
- Outline measures to be taken to clean and disinfect
- Outline flow of dirty equipment and materials
- Contain used linens
- Isolate contaminated linens
- Clean work areas
- Disinfect work areas

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Apply aseptic and sterilizing principles

Competency Builders:

Read and follow manufacturer's instructions for safe operation of all equipment and instruments

Maintain infection control

Prescrub instruments, if applicable

Disinfect instruments, if applicable

Sterilize instruments, if applicable

Operate sterilizing equipment, if applicable

Store sterilized equipment and supplies

Define asepsis

Identify methods for sterilizing and disinfecting reusable equipment

Define spore strip and how it is used to guarantee sterilization

Explain why dating of sterilized equipment is necessary

Explain why proper documentation of disinfection and sterilization procedures is necessary

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Dispose of waste materials in compliance with government regulations

Competency Builders:

- Practice safe, sanitary, and sterile procedures, if applicable
- Dispose of noninfectious waste
- Dispose of infectious waste
- Dispose of hazardous waste
- Dispose of controlled substances
- Dispose of needles and sharp instruments properly

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Demonstrate isolation techniques

Competency Builders:

- Describe different types of isolation
- Demonstrate mask, gown, and gloving techniques
- Demonstrate use of protective eyewear/faceshield
- Demonstrate double bagging technique
- Demonstrate procedures for disposal of soiled materials
- Provide care for patient using isolation technique
- Collect specimen from isolation patient

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: **Maintain patient safety**
(Not applicable for MLT)

Competency Builders:

- Apply restraints (e.g., soft, vest)
- Monitor use of restraints
- Utilize gait belt
- Assist patient to walk with assistive ambulation devices
- Demonstrate safe usage of patient transport equipment
- Demonstrate safe handling of patient medical equipment (e.g., IV's, catheters, oxygen tubing)
- Identify proper bed height
- Position patient maintaining proper body alignment, supporting body parts
- Demonstrate patient transfer techniques
- Identify safety needs of medicated patient
- Demonstrate usage of side rails
- Identify placement of patient call device
- Orient patient to surroundings
- Verify patient identify
- Identify self/title to patient
- Identify behaviors that may escalate to violence
- Identify steps in managing at-risk patient

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Explain sexually transmitted diseases (STDs)

Competency Builders:

Differentiate fact from fallacy regarding the transmission and treatment of STDs

Identify community resources and services available to victims of STDs

Identify at-risk behaviors which promote the spread of AIDS

Describe infection control techniques designed to prevent the spread of STDs

Unit: Medical Terminology

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Use common medical symbols, abbreviations, and acronyms

Competency Builders:

Identify commonly used symbols (e.g., O₂)

Write out full names of commonly used acronyms

Write out full names of commonly used abbreviations (e.g., bx = biopsy)

Spell medical terms correctly

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Demonstrate knowledge of medical terminology

Competency Builders:

Define, spell, and pronounce basic Greek and Latin prefixes and suffixes

Spell basic Greek and Latin prefixes and suffixes

Pronounce basic Greek and Latin prefixes and suffixes

Identify principal terms relating to the body as a whole (e.g., ambulation, hypothermia)

Define terms related to the integumentary system

Define terms related to the skeletal system

Define terms related to the muscular system

Define terms related to the nervous system

Define terms related to the circulatory/cardiovascular system

Define terms related to the lymphatic system

Define terms related to the respiratory system

Define terms related to the digestive system

Define terms related to the endocrine system

Define terms related to the urinary system

Define terms related to the reproductive system

Define terms related to the senses

Define terms related to immunology

Define terms related to pathology

Unit: Anatomy, Physiology, and Pathology

BIL: Essential

EDU:	12	AD	AC
	P	R	S

Competency: Demonstrate general knowledge of basic chemistry

Competency Builders:

Identify elements on periodic table

Design simple chemical formulas

Contrast atoms versus molecules

Define synthesis, decomposition, and exchange reactions

Define diffusion, filtration, and osmosis

Differentiate between acids and bases

BIL: Essential

EDU:	12	AD	AC
	P	R	S

Competency: Demonstrate general knowledge of the human body

Competency Builders:

Define anatomy and physiology and explain their relationship

Describe the anatomical position

Identify body directions, planes, and cavities

Name the major organ systems and their functions

Classify major organs by the organ system they are within

Define cell composition, shape and size

Identify cell regions and organelles and explain their function

Identify basic life processes of cell division and transportation

Identify the four major tissue types, their function and subtypes

Define neoplasm and distinguish between benign and malignant

Describe effect of aging across the lifespan

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the integumentary system

Competency Builders:

List the functions of the integumentary system

Describe skin's response to touch/pressure, temperature, and pain

Name the layers of the skin

Identify structures associated with the skin, hair, hair follicle, sebaceous gland, and sudoriferous gland

Name the major body membranes

Identify common skin disorders

Describe common types of skin lesions

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the skeletal system

Competency Builders:

List functions of the skeletal system

Name methods of classifying bone

Identify bone types within each classification method

Explain the structure and function of a long bone

Describe the composition of bone

Define function and dysfunction of bone marrow

Explain the process of bone formation and growth

Identify major bones of the human skeleton

Name types of bone markings and their associated terms

Define joint and describe the typical structure of a joint

Name categories of joints

Compare the amount of movement allowed by each type of joint

Define types of motion

Identify various types of fractures

Identify the various methods of correction for fractures

Identify common disorders and injuries of bones and joints

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the muscular system

Competency Builders:

Identify types of muscle tissue

Describe muscle contraction

Define the parts of a muscle and explain major muscle types

Define muscle tone, isotonic and isometric contractions

Name types of movements produced by skeletal muscle contractions

Identify the major muscles of the human body

Identify common abnormal conditions of the muscles

Identify origin, insertion and function of muscles

Describe common disorders and injuries of the muscles

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the nervous system

Competency Builders:

Describe the general functions of the nervous system

Identify the main parts of the nervous system

Name principal cell types that compose the nervous system

Describe the neuron, its function, and the existing types of neurons

Describe the neuralgia, its function, and the existing types of neuralgia

Define ganglia, nuclei, tracts and nerves, noting their differences

Describe the events of the nerve impulse

Identify parts of the brain

Describe structures and functions of the various parts of the brain and spinal cord

Explain function of the autonomic nervous system and its divisions

Describe common disorders and injuries of the nervous system

BIL: Essential

EDU:	12	AD	AC
	P	R	S

Competency: Demonstrate knowledge of the circulatory/
cardiovascular system

Competency Builders:

Identify the structures and functions of the heart

Trace the pathway of blood through the heart

Describe routes of blood circulation

Define blood pressure, pulse, systole, diastole and cardiac cycle

Describe the pathway of impulses through the heart's conduction system

List factors that influence heart rate

Identify the structure and function of the blood vessels - arteries, veins and capillaries

Identify major blood vessels

Identify structures involved in fetal circulation

Identify several pulse points

Identify major components of blood

Identify the blood types

Describe the blood clotting process

Describe common disorders of the circulatory/cardiovascular system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the lymphatic system

Competency Builders:

Name the structures composing the lymphatic system

Identify the functions of the lymphatic system

Explain the relationship between the lymphatic system and the cardiovascular system

Explain the immune response in relationship to the lymphocytes

Define antigens

Define antibodies and ways in which antibodies act against antigens

Differentiate between active and passive immunity

Describe common disorders of the lymphatic system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the respiratory system

Competency Builders:

Identify major respiratory system organs and structures describing the function of each

Describe the function of major respiratory system organs and structures

Define cellular respiration, external respiration, internal respiration, ventilation, expiration and inspiration

Describe the process of gas exchange in the lungs and the tissues

Explain role of the respiratory muscles in breathing

Identify brain areas involved in the control of respiration

Explain respiratory volumes and capacities

Describe a common disorders and injuries of the respiratory system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the digestive system

Competency Builders:

Identify the structures and functions of the digestive system

Describe the mechanisms of mastication, swallowing, vomiting and defecation

Define anabolism and catabolism

Define basal metabolic rate and total metabolic rate

Describe common disorders of the digestive system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the endocrine system

Competency Builders:

Differentiate between endocrine and exocrine glands

Identify major endocrine glands and hormones produced by each

Explain response of body systems to hormones

Describe common endocrine gland disorders

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the urinary system

Competency Builders:

Identify components of the urinary system

Explain the functioning of the urinary system

Identify nitrogenous waste found in the urine

Explain how water and electrolyte balance is maintained by the body

Define micturition

Explain how micturition occurs

Describe common disorders of the urinary system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the reproductive system

Competency Builders:

Explain the general function of the reproductive system

Identify major organs of the reproductive system

Describe the phases of the menstrual cycle

Explain the process of meiosis, spermatogenesis, and oogenesis

Identify stages of embryonic development

Explain the physiology of childbirth

Describe common disorders of the reproductive system

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of the senses

Competency Builders:

Identify major structures and functions of vision, hearing, balance, smell, taste, and touch

Define refraction, accommodation, real image, and emmetropic

Describe common disorders and injuries of the senses

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of immunology

Competency Builders:

Explain the immune response in relationship to the lymphocytes

Define antigens and antibodies

Explain the differences among the five major classes of antibodies

Describe the relationship between antigens and antibodies

Differentiate between active and passive immunity

Describe common immunodeficiencies, allergies, and autoimmune disorders

Unit: Medical Law and Ethics

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Comply with medical law and ethics

Competency Builders:

Differentiate between legal and ethical behavior

Explain terms, principles, and characteristics of legal and ethical behavior

Explain state and federal rules and regulations governing the practice of the profession

Explain legal ramifications of breaching rules and regulations

Explain effects of unethical and/or unlawful behavior of health care professionals

Practice within the role and scope of the profession as defined by law, job description, and facility/arena of practice

Explain process of certification/licensure of health professionals

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Exhibit ethical behavior

Competency Builders:

Describe ethical dilemma in health care (e.g., death and dying, medical ethics committees)

Explain health care professional's responsibility in situations of patient abuse and neglect

Explain health care professional's responsibility in situations of coworker chemical addiction

Identify personal, societal, and global implications of substance use and abuse

Explain effects of unethical behavior of health care professionals

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Describe legal ramifications of misconduct

Competency Builders:

Explain terms, principles, and characteristics of legal and ethical behavior
Explain legal and ethical ramifications of breaching patient confidentiality

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Practice discretion regarding patient information

Competency Builders:

Identify components of Patient Bill of Rights

Communicate patient's rights

Identify patient's rights and responsibilities

Describe reasons for sharing patient information

Identify appropriate persons to whom information can be released

Describe methods of maintaining confidentiality

Explain truth-in-lending law

Explain anatomical gift act

Explain advance directives

Explain living will

Explain informed consent

Identify reasons for termination of patient services

Explain consequences of noncompliance with physician's recommendations

Explain remuneration

Describe impact of communicable diseases

Describe the importance of proper sample identification

BIL: Essential (RNA Only)

EDU:	12	AD	AC
	I	P	C,M

Competency: Practice personal professional protocol with medical community

Competency Builders:

- Explain process of certification/licensure of health professionals
- Comply with tax requirements
- Maintain integrity of personal files
- Explain the statute of limitation
- Identify ownership of medical records
- Maintain procedures for legal access to patient and/or records
- Investigate professional liability coverage options

Unit: Psychology of Stress

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Analyze factors that influence a patient's response to stress

Competency Builders:

Explain stress as a concept

Differentiate between stress and stressors

Explain how an individual's perception of stress influences his response to stressors

Explain how internal and external mitigating factors influence one's response to stress

Identify coping mechanisms used to decrease stress

Identify biological adaptive responses to stress

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Analyze physiological response to stress

Competency Builders:

Describe the stress response on the autonomic nervous system, endocrine system, cardiovascular system, renal system, respiratory system, and hemopoietic system

Explain how the internal and external non-specific mitigating factors relate to the physiological stress response

Differentiate between immune systems response to stressors in children and adults

Explain how the concept of stress relates to activation of the disease process

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Analyze psychological response to stress

Competency Builders:

Identify psychological stressors

Describe the relationship between personality types and the stress response

Summarize the primary and secondary appraisal of a stressor

Differentiate between cognitive and behavioral coping mechanisms

Differentiate among problem-focused, emotion-focused, and appraisal-focused coping in relation to stressors

Identify a patient's ability to cope with stress based on individual and stressor characteristics

Identify types of coping strategies

Identify selected defense mechanisms

Summarize ineffective coping behaviors

Explain the psychobiologic response of anxiety as it relates to stress

Describe the disequilibrium associated with response to stressors

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Provide care for a patient with an ineffective coping response

Competency Builders:

- Assess psychological responses to stress in a patient
- Promote exploration of feelings when providing patient care
- Describe strategies to assist in stress reduction
- Implement strategies to assist in stress reduction
- Evaluate selected patient interventions and suggest alternative measures

Unit: Psychology of Human Relations

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Explain human growth and development

Competency Builders:

Describe characteristics of growth and development from conception to birth

Describe characteristics of growth and development from birth through preschool

Describe characteristics of growth and development from school age through adolescence

Describe characteristics of growth and development of the adult through the life span

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate appropriate communication techniques

Competency Builders:

- Identify components of provider-client relationship
- Identify ways to cope with stress
- Identify uniqueness of individual (e.g., cultural, generational, social, ethnic)
- Treat clients with respect and dignity
- Identify assertive and aggressive responses
- Differentiate between acceptable and unacceptable touching
- Identify barriers to communication

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Establish rapport

Competency Builders:

- Describe proper manner for greeting a patient
- Adapt communication to individual's ability to understand (e.g., functioning level, emotional state, and educational level)
- Respond to verbal and nonverbal communication
- Serve as liaison between physician, patient, and others
- Solicit patient's understanding of communication
- Translate medical terms into language patient can understand
- Interpret patient's reaction to illness and disability
- Describe individual, cultural and socioeconomic differences in people
- Identify methods in which to communicate with patients or responsible party with sensory disorders
- Support patient/responsible party during the grief process
- Orient patient to policies, facilities, and staff
- Respond to patient/responsible party in a therapeutic manner
- Identify patient personality types
- Treat patient with empathy and impartiality
- Support patient's right to make decisions regarding care
- Encourage ventilation of patient/responsible party's feelings

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Follow established procedures for communication and documentation

Competency Builders:

- Transmit reports of patient status
- Demonstrate basic computer skills
- Complete interdepartmental requisitions (e.g., therapies, procedures, tests)
- Complete an incident report
- Monitor accuracy in all communications
- Initiate medical records according to institutional policies
- Maintain medical records according to institutional policies
- Identify need for documenting and reporting
- Interpret patient-related documents participate in team conferences
- Report change in patient status
- Clarify physicians orders
- Differentiate charting methods
- Respond to request for service
- Respond to request from patient's funding source
- Notify patient or responsible party of changes required in treatment plan
- Write instructions for use of patient equipment (e.g., orthosis, prosthesis)
- Write instructions for a home therapy program
- Witness a consent form
- Create an informational display

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Document patient progress

Competency Builders:

Record current treatment rendered and patient response

Include parameters in notes (e.g., subjective, objective, assessment, plan)

Use correct grammar, spelling, and approved abbreviations

Secure appropriate signatures

Write legibly

Use appropriate resources

Unit: First Aid and Medical Emergencies

BIL: Essential

EDU:	12	AD	AC
	P	R	C,M,S

Competency: Use emergency procedures

Competency Builders:

- Identify emergency procedures
- Contact local emergency assistance
- Demonstrate first responder procedures
- Acquire first aid certification
- Acquire CPR certification

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S,M

Competency: Perform first aid

Competency Builders:

- Assist with first aid for wounds or fractures
- Administer first aid to control bleeding
- Administer first aid for shock
- Administer first aid for burn patient
- Assist with first aid for poisoned patient
- Assist with choking patient
- Assist with patient having seizure
- Assist with syncopal patient

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S,M

Competency: Maintain cardiopulmonary resuscitation (CPR) according to certification agency standards

Competency Builders:

- Update CPR certification
- Administer CPR to infants and children
- Administer CPR to adults
- Administer care for obstructed airways for infants, children, and adults

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Respond to medical emergencies

Competency Builders:

Identify patient

Perform head to toe patient assessment

Assess patient needs

Describe signs and symptoms of emergency situations

Identify basic emergency equipment

Take appropriate action

Unit: General Administrative Duties

All competencies in this unit are to be addressed as applicable to a specific occupation.

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Perform scheduling and recordkeeping duties

Competency Builders:

- Schedule patient appointments
- Coordinate activities with other departments
- Coordinate activities with community agencies
- Schedule space and equipment for therapy
- Maintain daily charges for equipment/treatment
- Comply with reimbursement requirements
- Maintain patient files/charts
- Maintain patient attendance records
- Schedule routine equipment maintenance and repair

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Perform other departmental duties

Competency Builders:

- Assist in dealing with vendors
- Assist in maintenance of departmental budget
- Assist in writing/revising job description
- Assist in writing/revising forms (e.g., home programs, documentation forms)
- Maintain departmental cleanliness
- Maintain inventory/supplies

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Manage reception area

Competency Builders:

Prepare reception area

Greet visitors and patients

Advise patient of office hours

Manage children accompanying patient

Identify ways to communicate with patients with sensory disorders

Screen non-patient visitors

Explain delays to patients

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate telephone handling techniques

Competency Builders:

Place calls

Record telephone messages (e.g., date, time, initial calls)

Screen calls

Transfer calls

Obtain information for return calls

Handle emergency calls

Make arrangements for patient's admission to hospital

Make patient referrals

Phone prescriptions to pharmacy

Phone non-medication prescriptions to appropriate agency

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BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain appointment schedules

Competency Builders:

- Write appointments legibly
- Prepare appointment calendar
- Record appointments
- Prepare appointment cards
- Maintain recall system
- Confirm appointments
- Schedule outpatient diagnostic tests
- Make referral appointments for patients

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain medical records and laboratory reports

Competency Builders:

Obtain patient information

Prepare folder

Prepare charge documentation

Explain importance of records management

File information alphabetically or numerically according to office protocol

Retrieve patient record from file

Prepare cross-reference file

Process incoming medical reports

Purge records

Prepare reports concerning patient care, condition, census, accidents, and incidents

Maintain current documentation of patient status and care

Complete immunization records

Compile patient laboratory reports

Process completed laboratory reports

Document results from reference laboratories

Verify tests ordered and test received

BIL: Recommended

EDU:	12	AD	AC
	I	P	C

Competency: Prepare office communications

Competency Builders:

- Compose business correspondence
- Edit business correspondence
- Transcribe letters from dictating machine
- Keyboard business correspondence
- Print documents
- Proofread for errors in correspondence
- Complete appropriate consent forms
- Address envelopes
- Process incoming mail
- Maintain files for correspondence
- Classify outgoing mail
- Label outgoing mail

BIL: Essential

EDU:	12	AD	AC
	I	P	M,C

Competency: Use office equipment

Competency Builders:

- Operate calculator
- Operate checkwriter
- Operate computer
- Operate copy machine
- Operate fax machine
- Operate multi-line telephone system

BIL: Recommended

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate knowledge of different payment systems

Competency Builders:

- Identify required procedures for private carriers
- Identify required procedures for non-insured patients
- Identify required procedures for health maintenance organization (HMO)
- Identify required procedures for preferred provider organization (PPO)
- Identify required procedures for independent practitioner association (IPA)
- Identify required procedures for U.S. government employees (TRICARE)
- Identify required procedures for Aid to Dependent Children (ADC)
- Identify required procedures for general assistance (GA)
- Identify required procedures for Medicare
- Identify required procedures for Medicaid
- Identify required procedures for worker's compensation

BIL: Recommended

EDU:	12	AD	AC
	I	P	C

Competency: Perform diagnostic coding

Competency Builders:

Stay current with diagnostic coding changes

Complete forms for international classification of diseases (ICD-9 CM)

Complete forms for current procedural terminology (CPT)

Complete forms for health care procedural code (HCPC)

Complete forms for diagnostic related groups (DRG)

Complete forms for J-codes

BIL: Recommended

EDU:	12	AD	AC
	I	R	C,M

Competency: Process insurance claims/forms

Competency Builders:

Define primary and secondary carriers

Define third party administrators

Explain payment and rejection procedures (e.g., co-pays, deductibles, errors)

Process quick-claim forms

Use procedure codes

Log and track insurance claims/forms

BIL: Recommended

EDU:	12	AD	AC
		I	C,M

Competency: Perform financial functions

Competency Builders:

- Apply basic bookkeeping fundamentals
- Interpret and explain fees
- Arrange financial agreements
- Complete ledger
- Prepare account summaries
- Collect fees
- Issue receipts
- Maintain petty cash account
- Prepare bank deposits
- Verify invoices
- Collect delinquent bills
- Collect and post payments
- Process credit card transactions
- Prepare checks for signature
- Prepare payroll
- Reconcile bank statements, cash, and/or receipts
- Complete Worker's Compensation forms and Medicare/Medicaid forms
- Prepare schedule of accounts receivable
- Prepare schedule of accounts payable
- Maintain accounts receivable
- Maintain accounts payable

Unit: General Administrative Duties for Medical Assistant

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Perform scheduling and recordkeeping duties

Competency Builders:

- Schedule patient appointments
- Coordinate activities with other departments
- Coordinate activities with community agencies
- Schedule space and equipment for therapy
- Maintain daily charges for equipment/treatment
- Comply with reimbursement requirements
- Maintain patient files/charts
- Maintain patient attendance records
- Schedule routine equipment maintenance and repair

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Perform other departmental duties

Competency Builders:

- Assist in dealing with vendors
- Assist in writing/revising job description
- Assist in writing/revising forms (e.g., home programs, documentation forms)
- Maintain departmental cleanliness
- Maintain inventory/supplies

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Manage reception area

Competency Builders:

Prepare reception area

Greet visitors and patients

Advise patient of office hours

Manage children accompanying patient

Identify ways to communicate with patients with sensory disorders

Screen non-patient visitors

Explain delays to patients

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate telephone handling techniques

Competency Builders:

Place calls

Record telephone messages (e.g., date, time, initial calls)

Screen calls

Transfer calls

Obtain information for return calls

Handle emergency calls

Make arrangements for patient's admission to hospital

Make patient referrals

Phone prescriptions to pharmacy

Phone non-medication prescriptions to appropriate agency

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain appointment schedules

Competency Builders:

- Write appointments legibly
- Prepare appointment calendar
- Record appointments
- Prepare appointment cards
- Maintain recall system
- Confirm appointments
- Schedule outpatient diagnostic tests
- Make referral appointments for patients

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain medical records and laboratory reports

Competency Builders:

Obtain patient information

Prepare folder

Prepare charge documentation

Explain importance of records management

File information alphabetically or numerically according to office protocol

Retrieve patient record from file

Prepare cross-reference file

Process incoming medical reports

Purge records

Prepare reports concerning patient care, condition, census, accidents, and incidents

Maintain current documentation of patient status and care

Complete immunization records

Compile patient laboratory reports

Process completed laboratory reports

Document results from reference laboratories

Verify tests ordered and test received

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Prepare office communications

Competency Builders:

- Compose business correspondence
- Edit business correspondence
- Transcribe letters from dictating machine
- Keyboard business correspondence
- Print documents
- Proofread for errors in correspondence
- Complete appropriate consent forms
- Address envelopes
- Process incoming mail
- Maintain files for correspondence
- Classify outgoing mail
- Label outgoing mail

BIL: Essential

EDU:	12	AD	AC
	I	P	M,C

Competency: Use office equipment

Competency Builders:

- Operate calculator
- Operate checkwriter
- Operate computer
- Operate copy machine
- Operate fax machine
- Operate multi-line telephone system

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Demonstrate knowledge of different payment systems

Competency Builders:

- Identify required procedures for private carriers
- Identify required procedures for non-insured patients
- Identify required procedures for health maintenance organization (HMO)
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- Identify required procedures for independent practitioner association (IPA)
- Identify required procedures for U.S. government employees (TRICARE)
- Identify required procedures for Aid to Dependent Children (ADC)
- Identify required procedures for general assistance (GA)
- Identify required procedures for Medicare
- Identify required procedures for Medicaid
- Identify required procedures for worker's compensation

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Perform diagnostic coding

Competency Builders:

Stay current with diagnostic coding changes

Complete forms for international classification of diseases (ICD-9 CM)

Complete forms for current procedural terminology (CPT)

Complete forms for health care procedural code (HCPC)

Complete forms for diagnostic related groups (DRG)

Complete forms for J-codes

BIL: Essential

EDU:	12	AD	AC
	I	R	C,M

Competency: Process insurance claims/forms

Competency Builders:

Define primary and secondary carriers

Define third party administrators

Explain payment and rejection procedures (e.g., co-pays, deductibles, errors)

Process quick-claim forms

Use procedure codes

Log and track insurance claims/forms

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Perform financial functions

Competency Builders:

Apply basic bookkeeping fundamentals

Interpret and explain fees

Arrange financial agreements

Complete ledger

Prepare account summaries

Collect fees

Issue receipts

Maintain petty cash account

Prepare bank deposits

Verify invoices

Collect delinquent bills

Collect and post payments

Process credit card transactions

Prepare checks for signature

Prepare payroll

Reconcile bank statements, cash, and/or receipts

Complete Worker's Compensation forms and Medicare/Medicaid forms

Prepare schedule of accounts receivable

Prepare schedule of accounts payable

Maintain accounts receivable

Maintain accounts payable

Unit: Vital Signs

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Interview patient

Competency Builders:

Complete patient information sheets

Record medical/health history (e.g., allergies, current medications)

Assess bio-psycho-social condition

Validate data with patient or patient's family member(s)

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C,M

Competency: Measure temperature

Competency Builders:

- Follow safety and aseptic precautions for taking temperature
- Identify normal range and average temperature of oral, axillary, tympanic, and rectal methods of measuring body temperature
- Identify factors that may affect temperature
- Select route for measuring temperature
- Demonstrate use of different types of thermometers
- Record temperature measurements
- Report abnormal temperature measurements
- Maintain thermometer(s)

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C,M

Competency: Measure pulse

Competency Builders:

Identify criteria for selecting pulse site (e.g., femoral, apical, radial)

Identify normal pulse range for different age groups

Identify factors that may affect pulse

Identify variations from normal pulse rate that should be reported

Record pulse

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Measure ventilation

Competency Builders:

Measure rate, depth, and rhythm of respiration

Identify normal respiratory rate for different age groups

Report signs of compromised respiration

Identify factors that may affect respiration

Record respiration

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C,M

Competency: Measure blood pressure

Competency Builders:

Identify myths and misconceptions related to blood pressure and hypertension

Identify etiology of hypertension

Identify consequences of untreated hypertension

Identify normal range of blood pressure for different age groups

Record blood pressure

Identify factors that affect blood pressure

Select appropriate cuff size

Describe the effect of inappropriate cuff size on accurate blood pressure reading

Identify variations from normal blood pressure that should be reported

Demonstrate use of aneroid sphygmomanometer

Demonstrate use of mercurial sphygmomanometer

Demonstrate palpated blood pressure

Demonstrate use of electronic sphygmomanometer

Demonstrate location of stethoscope bell for proper blood pressure reading

Identify systolic and diastolic sounds

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Obtain physical measurements

Competency Builders:

- Measure adult height
- Measure adult weight
- Measure adult chest and waist expansion
- Measure infant height
- Measure infant weight
- Measure infant head and chest circumference
- Measure auditory status (e.g., tympanogram)
- Measure visual status (e.g., eye chart)
- Identify color blindness
- Record all results

Unit: Nutrition

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Identify fundamentals of nutrition

Competency Builders:

- Identify nutrients and food groups
- Explain role of nutrients to body functions
- Explain regional, cultural, and religious food patterns
- List factors which must be considered when purchasing food
- Identify component of a balanced diet across the life span (e.g., USDA food pyramid)
- List factors which must be considered when storing food
- Identify methods of food preparation
- Instruct patient in sound nutrition principles

BIL: Recommended

EDU:	12	AD	AC
	I	P	

Competency: Identify nutritional needs related to special conditions and/or diseases

Competency Builders:

Describe common diets related to health alterations (e.g., pureed, mechanical-soft)

Describe special diets

Identify community resources

Identify risks of non-compliance with dietary restrictions

Educate patient regarding dietary hazards (e.g., caffeine, fats)

BIL: Essential (RNA only)

EDU:	12	AD	AC
	P	R	

Competency: Draw correlation between diet and exercise

Competency Builders:

Identify methods of exercise

Explain effect of exercise and food on energy level

Write an exercise plan

Identify weight-related issues

BIL: Recommended

EDU:	12	AD	AC
		P	

Competency: Identify facets of alternative nutrition (RNA, MA only)

Competency Builders:

Identify indications and effects of tube feedings

Identify indications and effects of intravenous fluids

Identify indications and effects of lipids

Identify indications and effects of hyperal

Unit: Basic Pharmacology

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M,C

Competency: Maintain supply of medications, as applicable to the profession

Competency Builders:

Check inventory stock

Contact supplier

Rotate stock

Process narcotic forms (e.g., Drug Enforcement Agency (DEA) license)

Store medications properly

Prepare expired medications for disposal

Dispose of medications properly (e.g., comply with government regulations)

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M,C

Competency: Calculate dosage according to physician's orders

Competency Builders:

Explain the need to verify the accuracy of medical orders

Verify accuracy of medical orders

Use Physician's Desk Reference (PDR)

Transcribe medication order

Calculate oral dosage

Calculate parenteral dosage

Calculate sublingual dosage

Calculate pediatric dosage

Calculate intravenous dosage and rate of flow

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M,C

Competency: Instruct patients on use of medications

Competency Builders:

Provide verbal and/or written instructions for medication use

Explain use of medications (e.g., identify side effects, adverse effects, interactions)

Maintain standing orders according to physician's protocol (e.g., prescription refills)

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M,C

Competency: Administer medications according to medical orders as applicable to the profession

Competency Builders:

- Identify patient
- Verify patient allergies
- Use reference materials
- Verify accuracy of medical orders
- Calculate dosages
- Prepare oral medication
- Identify correct anatomical sites
- Prepare intramuscular, intradermal, and subcutaneous injectable medications
- Prepare and administer sublingual medications
- Prepare transdermal medications
- Prepare inhalant medications
- Prepare instillation medications
- Prepare and administer topical medications
- Prepare and administer rectal medications
- Prepare and administer vaginal medications
- Assist with administration of local anesthesia
- Administer medications
- Document medication administration
- Document patient response to medications

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Evaluate response to medication

Competency Builders:

- Identify possible adverse reactions to medication
- Assess patient reaction to medication
- Report untoward reactions to appropriate sources
- Document patient response to medication

Unit: Patient Education

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Inform patient/family about diagnostic procedures

Competency Builders:

- Distribute literature regarding advised procedure
- Explain diagnostic procedures
- Explain preparation for diagnostic procedures
- Translate medical terminology into lay terms
- Distribute resource materials related to test results
- Schedule patient follow-up
- Obtain informed consent signature

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Educate patient/responsible party about self-care related to results of specific diagnostic procedure/therapy

Competency Builders:

- Identify support groups and resources
- Obtain verbal and written information to plan patient's care
- Reinforce special diets with patient/responsible party
- Reinforce recommended exercise programs with patient/responsible party
- Reinforce specialized applications with patient/responsible party (e.g., ortho, dietary, ostomy, splints, orthotics)
- Reinforce self-administration of medications with patient/responsible party
- Reinforce health maintenance techniques with patient/responsible party
- Refer patient/responsible party to support groups and resources
- Solicit patient/responsible party feedback
- Record teaching and patient response
- Instruct patient/responsible party in necessary adaptations to environment
- Instruct patient/responsible party in adaptive techniques (e.g., activities of daily living, homemaking)

BIL: Essential (PTA, RAD, RNA, MA only)

EDU:	12	AD	AC
	I	P	C

Competency: Provide psycho-social care for patient/family

Competency Builders:

Arrange emotional support for patient and family member(s)

Report child abuse and/or neglect

Respond to emotional needs of terminally ill patient and family member(s)

Apply reality orientation technique

Arrange diversional activity for patient

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Inform patient about World Health Organization (WHO) immunization requirements

Competency Builders:

Instruct patient/family on infant, preschool, adolescent, and adult immunizations

Instruct patient/family on international requirements

Reinforce instructions from other health professionals to patient/family member(s)

Unit: Examinations

All competencies in this unit are to be addressed as applicable to a specific occupation

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Demonstrate general knowledge of diagnostic studies

Competency Builders:

- Describe the various methods of examining patients
- Explain the functions of commonly used examining instruments
- Describe the sequence of steps in a general physical examination
- Identify various patient positions used in examinations
- Identify common diagnostic blood tests performed in the medical laboratory
- Differentiate between cultures and smears used in bacteriology
- Identify sources from which cultures and smears may be obtained
- Describe common radiological and sonographic studies and imaging techniques
- Identify the purposes of nuclear medicine
- Identify common cardiopulmonary diagnostic examinations
- Identify common neurological diagnostic examinations

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Demonstrate principles of body mechanics and ergonomics

Competency Builders:

Identify principles of ergonomics

Identify common causes of back injuries

Demonstrate proper body mechanics involved in lifting, moving, transferring, ambulating, and positioning patient

Assist patient in and out of wheelchair

Assist patient with crutches

Assist patient with cane

Assist patient with walker

Assist patient with standing

Assist patient with cast or splints

Assist patient to bathroom

Position patient using supportive devices (e.g., pillows, footboards)

Perform ROM (e.g., range of motion)

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with general examination

Competency Builders:

Prepare examination room(s)

Set-up trays and equipment

Change paper on examination table

Provide for patient privacy

Prepare patient for examination

Communicate with patient with special needs (e.g., hearing or vision disorder)

Inventory personal property

Assist physician/therapist with examination

Carry out physician's/therapist's orders and treatment plan

Follow up patient needs

Ensure procedure documentation and labeling

Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with eye, ear, nose, and throat examination

Competency Builders:

- Prepare examination room(s)
- Set-up trays and equipment
- Prepare patient for examination
- Assist physician with examination
- Carry out physician's orders
- Follow up patient needs
- Ensure procedure documentation and labeling
- Assist with and chart eye irrigation
- Assist with and chart ear irrigation
- Assist with and chart tympanometry
- Assist with and chart laryngoscopy
- Describe taste bud reactions
- Conduct visual screening
- Conduct auditory screening
- Administer eye, ear, and nose medications
- Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with obstetric and gynecological examination

Competency Builders:

- Prepare examination room(s)
- Set-up trays and equipment
- Prepare patient for examination
- Assist physician with examination
- Carry out physician's orders
- Follow up patient needs
- Ensure procedure documentation and labeling
- Obtain cytology history
- Assist with Pap smear
- Instruct patient in self breast examination
- Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with pediatric examination

Competency Builders:

- Prepare examination room(s)
- Set-up trays and equipment
- Prepare patient for examination
- Assist physician with examination
- Carry out physician's orders
- Follow up patient needs
- Ensure procedure documentation and labeling
- Record measurements on growth chart
- Record immunizations
- Apply restraints when needed (e.g., papoose board)
- Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with proctology and gastrology examination

Competency Builders:

- Prepare examination room(s)
- Set-up trays and equipment
- Prepare patient for examination
- Assist physician with examination
- Carry out physician's orders
- Follow up patient needs
- Ensure procedure documentation and labeling
- Assist with proctoscopy
- Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with orthopedic examination

Competency Builders:

Prepare examination room(s)

Set-up trays and equipment (e.g., soaks)

Prepare patient for examination

Assist physician with examination

Carry out physician's orders

Follow up patient needs

Ensure procedure documentation and labeling

Assist with casting and splinting procedures

Demonstrate use of ambulatory aids

Assist patient in wheelchair transfer to and from examination table

Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with neurological examination

Competency Builders:

- Prepare examination room(s)
- Set-up trays and equipment
- Prepare patient for examination
- Assist physician with examination
- Carry out physician's orders
- Follow up patient needs
- Ensure procedure documentation and labeling
- Clean examination room after procedure

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with geriatric examination

Competency Builders:

Prepare examination room(s)

Set-up trays and equipment

Prepare patient for examination

Assist physician with examination

Carry out physician's orders

Follow up patient needs

Ensure procedure documentation and labeling

Clean examination room after procedure

Unit: Examinations for RNA

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Demonstrate general knowledge of diagnostic studies

Competency Builders:

- Describe the various methods of examining patients
- Explain the functions of commonly used examining instruments
- Describe the sequence of steps in a general physical examination
- Identify various patient positions used in examinations
- Identify common diagnostic blood tests performed in the medical laboratory
- Differentiate between cultures and smears used in bacteriology
- Identify sources from which cultures and smears may be obtained
- Describe common radiological and sonographic studies and imaging techniques
- Identify the purposes of nuclear medicine
- Identify common cardiopulmonary diagnostic examinations
- Identify common neurological diagnostic examinations

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Demonstrate principles of body mechanics and ergonomics

Competency Builders:

- Identify principles of ergonomics
- Identify common causes of back injuries
- Demonstrate proper body mechanics involved in lifting, moving, transferring, ambulating, and positioning patient
- Assist patient in and out of wheelchair/chair
- Assist patient with ambulatory aids
- Assist patient with standing
- Assist patient with cast or splints
- Assist patient to bathroom
- Position patient using supportive devices (e.g., pillows, footboards)
- Perform ROM (e.g., range of motion)

BIL: Recommended

EDU:	12	AD	AC
	I	P	S,C

Competency: Assist with medical examination

Competency Builders:

- Assess patient preparation for procedure
- Prepare examination room(s)
- Set-up trays and equipment
- Change paper on examination table
- Provide for medical asepsis and standard precautions
- Prepare patient for examination physically and psychologically
- Communicate with patient with special needs (e.g., hearing or vision disorder)
- Assist physician/therapist with examination
- Carry out physician's/therapist's orders and treatment plan
- Evaluate patient response
- Follow up patient needs
- Ensure procedure documentation and labeling
- Initiate home care instruction

Unit: Clinical Assessment

BIL: Essential (MA) Recommended (RCT, RNA)

EDU:	12	AD	AC
	I	P	

Competency: Perform tuberculosis testing

Competency Builders:

- Administer tine test
- Administer Mantoux test
- Interpret test results

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Perform body fluid specimen collection and handling according to CDC requirements

Competency Builders:

Collect specimens

Label all collected specimens properly

Describe conditions that must be met if specimens and tests are to be used as legal evidence

BIL: Essential (MA) Recommended (RCT, RNA)

EDU:	12	AD	AC
	I	P	

Competency: **Describe electrocardiograms**

Competency Builders:

Explain a 12-lead electrocardiogram

Discuss use of Holter monitors

Observe patient undergoing EKG testing

Unit: Radiography

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Identify characteristics of x-radiation

Competency Builders:

Define terms used in radiography

Explain where x-rays are in the electromagnetic spectrum

Identify characteristics of x-radiation (e.g., no mass or charge)

Differentiate between ionizing and non-ionizing radiations

Compare different methods of measuring x-radiation

Compare different types of radiation (e.g., alpha, beta, natural, man-made)

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Describe effects of radiation on the human body

Competency Builders:

Explain somatic and genetic effects of x-rays

Identify tissues most and least sensitive to radiation

Differentiate among exposure variables and their effects, both acute and chronic

Describe methods for reducing patient exposure

Explain methods of operator protection

Identify common methods of personnel monitoring

Describe LD 50/30 (e.g., Lethal Dose)

Explain Dose Equivalent Limit

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Practice radiation safety procedures in accordance with OSHA and EPA

Competency Builders:

- Adhere to safe radiation practices
- Demonstrate radiation safety precautions for patients
- Demonstrate radiation safety precautions for operators
- Comply with equipment safety laws
- Elicit patient history which might indicate a risk or a reaction (e.g., allergies, tape sensitivities, injection of an iodinated contrast medium)
- Wear radiation monitoring device(s) while on duty
- Document personal radiation exposure
- Question female patients about possible pregnancy and alert physician
- Remove all unnecessary persons from area prior to taking radiograph
- Perform safety checks of radiographic equipment and accessories (e.g., lead aprons and gloves, collimator accuracy)
- Place protective shield(s) over patient's radio-sensitive organs prior to exposure
- Minimize personal and patient radiation exposure through principles of time, distance, and shielding
- Demonstrate appropriate infection control technique(s) when radiographing a patient in isolation
- Report radiologic accidents and/or spills immediately to proper authorities
- Identify need for medical attention and administer emergency care to patient in critical situation (e.g., bleeding; epileptic seizure; contrast media reactions; respiratory/cardiac distress)
- Practice universal precautions

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Prepare patient for radiographic procedures

Competency Builders:

Elicit patient history which might indicate a risk or a reaction (e.g., allergies, tape sensitivities; injection of iodinated contrast media)

Identify need for medical attention and administer emergency care to patient in critical situation (e.g., bleeding; epileptic seizure, contrast media reactions; respiratory/cardiac stress)

Assist patient in moving, transferring and ambulating

Explain procedure to patient to relieve anxiety and gain patient's cooperation during procedures

Give patient appropriate breathing instructions prior to making exposure

Assist physician in observing vital signs

Use body landmarks and standard radiographic positions to expose the desired anatomical part(s)

Assist physician with radiographic procedure if requested

Monitor medical equipment attached to patient while in radiology department (e.g., IVs, oxygen)

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Perform venipuncture and IV management

Competency Builders:

- Differentiate venous from arterial vessel
- Locate appropriate site for venous access
- Prepare skin using aseptic technique
- Introduce needle/catheter to selected vein
- Monitor site for extravasation
- Discontinue IV
- Administer IV contrast material

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Demonstrate principles of proper body mechanics and ergonomics

Competency Builders:

Identify principles of ergonomics

Identify common causes of back injuries

Demonstrate proper body mechanics used in lifting, moving, transferring, ambulating, and positioning patient

Assist patients with adaptive devices and/or attached medical equipment during movement

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Demonstrate general knowledge of diagnostic radiology procedures

Competency Builders:

- Describe common radiological procedures
- Perform common radiological procedures
- Describe common fluoroscopic procedures
- Perform common fluoroscopic procedures
- Describe computer tomography as an imaging modality
- Describe common mammography procedures
- Describe common computerized tomography procedures
- Describe common magnetic resonance procedures
- Describe common sonography procedures
- Describe common special procedures
- Describe common nuclear medicine procedures
- Describe common quality assurance procedures
- Describe common radiation therapy procedures
- Differentiate between diagnostic and therapeutic radiology
- Describe common surgical procedures, to include c-arm equipment
- Describe common contrast exams

BIL: Essential

EDU:	12	AD	AC
		P	M,S,C

Competency: Explain how x-rays are produced

Competency Builders:

Identify the different parts of the x-ray tube

Describe the process for production of x-radiation

Differentiate among the different types of radiation produced

Describe radiographic density (e.g., contrast and detail)

Explain the Inverse Square Law and its effect on x-ray production

Apply radiographic formulas and their effect on x-ray production

Explain Ma, KvP and time and their relationship on x-ray production

Describe factors that affect radiographic density, contrast, detail, and distortion

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Demonstrate knowledge of pathological processes that affect radiographic imaging

Competency Builders:

Differentiate between additive and destructive pathologies

Identify pathological processes that affect each body system

Correlate pathological conditions on images from various imaging modalities

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Demonstrate knowledge of equipment

Competency Builders:

Demonstrate the function of a diagnostic x-ray unit

Demonstrate the function of a fluoroscopic unit

Demonstrate the function of a portable x-ray unit

Demonstrate the function of a portable c-arm unit

BIL: Essential

EDU:	12	AD	AC
		P	S,M,C

Competency: Prepare equipment and materials for radiographic procedures

Competency Builders:

Differentiate among catheters, dilators, guidewires, and needles by size, type, and/or function

Warm up x-ray tube to achieve proper operating conditions

Measure appropriate patient parts for requested examination

Identify appropriate exposure factors

Modify exposure factors for circumstances (e.g., body habitus, voluntary and involuntary motion, pathological conditions)

Restrict beam exposure to area of interest

Set appropriate exposure factors to achieve optimum image quality

Perform radiographic examination in a sequence which avoids or minimizes undesirable effects

Check radiographs to verify they contain proper identification and are of diagnostic quality

Identify corrective measure if radiograph is not of diagnostic quality

Clean patient and/or equipment to remove anything that might interfere with radiograph quality

Assist physician in fluoroscopy by preparing the fluoroscopic unit and accessories for use and by adjusting controls as requested

Utilize sterile technique

Respond to malfunctioning medical equipment

Clean facilities and equipment

Disinfect or sterilize facilities and equipment

Dispose of contaminated items in preparation for next examination

Report malfunctions in radiographic unit

Differentiate among contrast media

Prepare contrast media accurately when appropriate

Obtain immobilization devices when necessary

Obtain adequate cassettes and accessories

BIL: Essential

EDU:	12	AD	AC
		P	S,M,C

Competency: Perform radiographic equipment check procedures

Competency Builders:

- Clean facilities and equipment
- Disinfect or sterilize facilities and equipment
- Dispose of contaminated items in preparation for next examination
- Report malfunctions in radiographic unit
- Demonstrate knowledge of quality control and quality assurance procedures
- Collect data for ongoing quality assurance monitoring

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Provide accurate radiographic record identification and retrieval

Competency Builders:

- Record required information following performance examination
- Retrieve radiographic patient records (e.g., radiographs or reports)
- Identify patient using information on request form
- Confirm patient's identity by checking wristband and/or by questioning patient
- Imprint proper patient identification and markers onto film
- Verify correctness of patient identification and markers on film
- Combine radiographic requisition with radiographs for interpretation and filing
- Check radiographic requisition to verify accuracy of information

BIL: Essential

EDU:	12	AD	AC
		P	S,C,M

Competency: Perform radiographic procedures

Competency Builders:

Follow manufacturer's instructions for film and equipment placement

Apply universal precautions

Adjust radiographic factors on x-ray equipment

Employ infection control procedures

Align patient, radiographic/fluoroscopic unit, and image receptor to product images of requested anatomical structures/systems

Use immobilization devices as needed

Use body landmarks and standard radiographic positions to expose the desired anatomical part(s)

Initiate rotor prior to making exposure

Give patient appropriate breathing instructions prior to making exposure

Check radiographs to assure optimum diagnostic image quality to include density, contrast, detail, distortion, and positioning

Identify corrective measure if radiograph is not of diagnostic quality

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Expose radiographic film

Competency Builders:

Follow manufacturer's instructions for film and equipment placement

Adjust radiographic factors on x-ray equipment

Apply infection control procedures

Position patient, radiographic/fluoroscopic unit, and image receptor to produce images of requested anatomical structures/systems

Use immobilization devices as needed

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Process exposed radiographic film

Competency Builders:

- Follow manufacturer's instructions for x-ray processors and solutions
- Mix solutions for developing and fixing radiographic film
- Follow darkroom procedures
- Unload cassettes
- Handle film properly
- Read thermometer
- Interpret time and temperature chart
- Load film into processor
- Follow safety precautions to prevent eye injury and minor burns
- Dispose of mixed solutions in accordance with EPA regulations
- Reload cassettes
- Clean equipment
- Monitor performance of automatic processor using sensitometry
- Report malfunctions in automatic processor

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Store radiographs and unexposed film

Competency Builders:

Handle film(s) properly

Hang radiographs on viewboxes in proper orientation

File radiographs

Check expiration date

Store exposed and unexposed film properly

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Maintain supply inventory

Competency Builders:

- Identify supplies to be kept in stock
- Identify appropriate stock levels
- Organize supplies
- Re-order supplies
- Maintain a clean working environment

Unit: Respiratory Care

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Identify respiratory care uses

Competency Builders:

- List areas in which respiratory therapy is involved with patient services
- Describe the rationale for lung expansion therapy
- List categories of diagnostic and patient monitoring procedures
- List procedures provided by respiratory therapy
- List conditions/diseases of patients who receive respiratory therapy treatment
- List indications for oxygen therapy
- List indications for aerosol and humidity administration
- List indications for the use of chest percussion/chest physiotherapy
- List indications for naso-tracheal, endotracheal, tracheal suctioning
- List goals of pulmonary rehabilitation and patient education
- Differentiate between educational programs of various respiratory care practitioners

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Prepare non-life support respiratory therapy equipment for patient use

Competency Builders:

- Explain purpose and application of non-life support equipment
- Identify components and ancillary equipment of non-life support equipment
- Identify oxygen administration devices
- Identify aerosol generators, croup tents, and vaporizer
- Identify humidifiers
- Identify gas delivery, metering, and analyzing devices
- Identify vacuum system components
- Identify patient breathing circuits
- Identify manometers and gauges
- Verify proper assembly of non-life support equipment
- Disassemble non-life support equipment

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Prepare life-support equipment for patient use

Competency Builders:

- Explain purpose and application of life-support equipment
- Identify life-support equipment
- Identify the components and ancillary equipment of life-support equipment
- Verify proper assembly of life-support equipment
- Disassemble life-support equipment for cleaning
- Identify and apply appropriate ventilation mode
- Maintain appropriate parameters as related to clinical status
- Discontinue life support as required
- Identify safety features
- Identify alarms
- Identify electrical and pneumatic supplies to ventilator
- Set-up ventilator
- Perform calculations
- Assess proper function
- Perform ventilation system check

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage airway as appropriate for certification/
discipline

Competency Builders:

Select appropriate Laryngoscope size ET tube

Insert and/or manage ET tube

Insert and/or manage trach tube

Insert and manage oral airways

Insert and manage nasopharyngeal

Suctioning of/care of laryngoscope equipment, intubation, extubation, trach
buttons, speaking valve

Identify correct tube placement

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Perform rehabilitation

Competency Builders:

Instruct pursed lip breathing

Instruct diaphragmatic breathing

Instruct cough control

Instruct diet

Instruct exercise conditioning

Instruct activities of daily living

Instruct bronchial hygiene techniques (e.g., Aerochamber, Inhalers)

Instruct smoking cessation

BIL: Essential

EDU:	12	AD	AC
		P	M,C,S

Competency: Manage pharmacological agents

Competency Builders:

- Administer and evaluate steroids
- Administer and evaluate bronchodilators
- Administer and evaluate antiviral
- Administer and evaluate mucolytics
- Administer and evaluate antibiotics
- Administer and evaluate bronchoconstrictors
- Administer and evaluate nicotine therapy
- Administer and evaluate artificial surfactant
- Administer and evaluate antipneumocystis
- Administer and evaluate topical anesthetics
- Administer and evaluate expectorants
- Administer and evaluate vasoconstrictors
- Administer and evaluate mast cell stabilizer

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Perform assessment

Competency Builders:

- Assess level of consciousness
- Evaluate level of activity
- Assess WOB (e.g., work of breathing)
- Evaluate cough
- Obtain smoking history
- Assess occupational exposure
- Obtain family history
- Measure chest excursion
- Assess level of dyspnea
- Assess color
- Assess clubbing of fingers
- Assess use of accessory muscles
- Assess position (e.g., tripodding)
- Assess breathing patterns (e.g., Cheynes Stokes)
- Assess breath sounds (e.g., wheeze, rhonchi, rales)
- Interpret lab values
- Evaluate chest radiograph
- Obtain and evaluate sputum cultures
- Obtain and evaluate EKG

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Demonstrate proper procedures for using flowmeters, regulators, gauges, and compressed gas cylinders

Competency Builders:

Identify the potential dangers associated with the use and transportation of oxygen

Identify safety measures associated with the use, transportation, and storage of oxygen

Outline the procedures for handling, maintaining, storing, and transporting flowmeters, regulators, gauges, and compressed gas cylinders

List methods by which medical gas cylinders are identified

Identify medical gases

Identify oxygen conserving devices

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Change non-life support equipment in patient care areas of a hospital

Competency Builders:

Differentiate between life-support and non-life support equipment

Identify safety measures to be taken before, during, and after changing non-life support equipment

Demonstrate proper communications with the patient whose equipment is being changed

Outline procedure for changing an oxygen delivery device which is in use on a patient

Verify proper operation of non-life support equipment

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Explain pulmonary pathology

Competency Builders:

Identify common diseases

Identify diagnostic criteria

Identify accepted treatments

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Plan for discharge

Competency Builders:

- Recognize need and arrange for referrals
- Conduct home visits
- Develop plan of service
- Develop plan of care
- Assess medical necessity
- Demonstrate use and care of home respiratory equipment

BIL: Recommended

EDU:	12	AD	AC
		I	S,C,M

Competency: Prepare or demonstrate special procedures

Competency Builders:

- Assist with bronchoscopy
- Assist with thoracentesis
- Perform pulmonary and cardiac stress testing
- Assist cardioversion
- Perform defibrillation
- Assist transtracheal aspiration
- Manage transtracheal catheters
- Perform sleep apnea studies
- Manage apnea monitors
- Manage chest tubes
- Manage chest drainage systems

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Demonstrate manual ventilation and suctioning

Competency Builders:

Identify patient

Describe differences between manual ventilation equipment

Identify indications, contraindications, hazards, and side effects of manual ventilation and suctioning

Determine if patient is a candidate for suctioning according to CPG (Clinical Practice Guidelines)

Determine type of suction appropriate for the patient

Explain proper vacuum range for suctioning

Demonstrate ability to suction properly maintaining sterile technique

Demonstrate ability to manually ventilate patient

Document and notify appropriate personnel

Assess patient response

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Perform bronchopulmonary hygiene

Competency Builders:

Identify patient

Determine if patient is a candidate for bronchopulmonary hygiene according to CPG

Explain indications, contraindications, hazards, and side effects of BPH

Demonstrate ability to position patient properly for drainage of all lung segments

Demonstrate proper technique to effectively perform BPH

Document patient response

Verify MD order

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Administer respiratory therapy medications

Competency Builders:

Identify patient

Verify accuracy and completeness of medication order

Explain purpose of respiratory medications to patient

Explain indications, actions, contraindications, side effects and hazards of respiratory medications

Demonstrate proper assembly of aerosol delivery device

Calculate dosages of respiratory therapy medications

Document patient/client response to medication

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Perform neonatal/pediatric respiratory care

Competency Builders:

Identify anatomical differences between neonates/pediatrics and adults

Describe various abnormalities of neonates

Describe different cardiopulmonary disease processes specific to neonates/pediatrics

Demonstrate ability to calculate medication dosages appropriate to age and weight

Identify differences in mechanical ventilation specific to pediatrics/neonates

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Prepare diagnostic equipment for patient use

Competency Builders:

- Explain purpose and application of diagnostic equipment
- Identify diagnostic equipment
- Identify the components and ancillary equipment of diagnostic equipment
- Assemble portable spirometers and electronic devices used to record flow, compliance, resistance, rate, and volume for patient use
- Disassemble portable spirometers, and electronic devices used to record flow, compliance, resistance, rate, and volume for cleaning
- Identify volume and capacity
- Identify major pulmonary tests
- Identify equipment use for pulmonary function testing
- Calibrate testing equipment
- Solicit patient cooperation
- Use equipment to test pulmonary function
- Calibrate testing equipment
- Solicit patient cooperation
- Evaluate test validity and reliability
- Perform a 12-lead EKG
- Identify parts of Swan Ganz catheter
- Identify arterial blood catheter
- Identify techniques used for hemodynamic monitoring
- Perform calculations using data collected from catheters
- Demonstrate ABGs/co-oximetry equipment
- Demonstrate pulse oximetry equipment
- Demonstrate transcutaneous O₂ and CO₂ equipment
- Demonstrate end tidal CO₂ equipment

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Disinfect or sterilize respiratory therapy equipment

Competency Builders:

- Define particulates, bacteria, viruses, fungi, rickettsiae, and spores
- Describe infectious hazards regarding respiratory therapy equipment
- Differentiate between disposable and reusable equipment
- Package components and ancillary equipment for sterilization
- Identify methods for sterilizing and disinfecting reusable equipment
- Outline proper cleaning, disinfecting, and sterilizing methods
- Demonstrate safe practice in cold liquid disinfection and sterilization
- Demonstrate safe practice in gas sterilization
- Explain how spore strip is used in guarantee sterilization of equipment
- Explain why proper dating of sterilized equipment is necessary
- Explain why proper documentation of disinfection and sterilization procedures is necessary to protect hospital patients
- Identify circumstances which would warrant replacement of liquid disinfectant/sterilization agents

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Demonstrate proper procedures for changing flowmeters, regulators, gauges, and compressed gas cylinders

Competency Builders:

- List indications for O2 therapy
- Identify and utilize O2 administration devices
- Identify and utilize gas delivery and analyzing device, metering
- Identify and utilize the potential dangers, safety measures and procedures associated with the use, transportation and storage of medical gases
- List methods by which medical gas cylinders are identified
- Differentiate Pin Index Safety System, Diameter Index Safety System and Compressed Gas Association (CGA) Safety System
- Read cylinder pressure remaining in medical compressed gas cylinder and calculate duration
- Identify tools necessary to remove the regulator from a compressed gas cylinder
- List possible hazards involved in changing the regulator on a compressed gas cylinder
- Explain procedure for changing flowmeters, regulators, gauges, and compressed gas cylinders
- Verify proper operation of flowmeters, regulators, gauges, and compressed gas cylinders
- Define bulk gas system
- Define and identify the components of a manifold system
- Define and identify the components of a piping delivery system
- Identify items to be monitored in a bulk manifold compressed gas system
- Explain LOX systems safety and hazards

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Test respiratory therapy equipment for proper operation and patient readiness

Competency Builders:

Verify that equipment components are assembled properly with all necessary accessories

Check safety check of all components

Check equipment components for cleanliness and/or appropriate disinfection or sterilization and packaging

Verify all equipment functions as required

Document faulty or defective equipment

Troubleshoot equipment for proper function

Change equipment as needed

Follow manufacturer's instructions for safe operation of the equipment

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Demonstrate proper safety precautions in the transport and delivery of equipment

Competency Builders:

Outline methods of safe movement of equipment through a hospital environment
Identify safety measures related to the delivery and placement of the equipment in patient care areas of a hospital environment

BIL: Essential

EDU:	12	AD	AC
		P	M,C,S

Competency: Perform hemodynamic monitoring

Competency Builders:

Identify parts of Swan Ganz catheter

Insert artering blood catheter

Identify arterial blood catheter

Identify techniques used for hemodynamic monitoring

Perform calculations using data collected from catheters

BIL: Essential

EDU:	12	AD	AC
		P	M,C,S

Competency: Operate mechanical ventilator

Competency Builders:

Identify safety features

Identify alarms

Identify electrical and pneumatic supplies to ventilator

Set-up ventilator

Perform calculations

Assess proper function

Perform ventilation system check

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Perform electrocardiograms

Competency Builders:

- Calibrate testing equipment
- Solicit patient cooperation
- Evaluate test validity and reliability
- Perform a 12-lead EKG

BIL: Essential

EDU:	12	AD	AC
		P	M,S,C

Competency: Evaluate chest x-rays

Competency Builders:

- Identify normal versus abnormal
- Identify tube placements
- Identify relationship to pulmonary diseases

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Perform pulmonary function tests

Competency Builders:

Identify volume and capacity

Identify major pulmonary tests

Identify equipment use for pulmonary function testing

Calibrate testing equipment

Solicit patient cooperation

Use equipment to test pulmonary function

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Demonstrate therapeutic modalities

Competency Builders:

- Demonstrate small volume aerosol and list indications
- Demonstrate large volume aerosol and list indications
- Demonstrate ultrasonic nebulizer and list indications
- Demonstrate chest percussion and list indications
- Demonstrate lung expansion and list indications
- Demonstrate noninvasive ventilation and list indications
- Demonstrate dose inhalers and spacers and list indications

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Demonstrate knowledge of proper procedures for changing and monitoring bulk manifold compressed gas cylinders

Competency Builders:

Define bulk gas system, include lox (e.g., liquid oxygen)

Identify the components of a manifold system

Identify the components of a piping delivery system

Identify items to be monitored in a bulk manifold compressed gas system

Demonstrate proper technique for backfeeding oxygen supply

Explain operation and use of zone valves

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Classify mechanical ventilators

Competency Builders:

Identify model of ventilator (including safety features and alarms)

Identify various modes of ventilation

Identify type of ventilators (volume vs. pressure)

Identify electrical and pneumatic supplies to ventilator

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Wean patient from mechanical ventilator

Competency Builders:

Assess patient

Identify criteria for weaning

Demonstrate ability to properly interpret weaning data

Demonstrate extubation procedure

Identify equipment needed for weaning and extubation

BIL: Recommended

EDU:	12	AD	AC
		I	C

Competency: Resuscitate neonates/pediatrics

Competency Builders:

Obtain certification in code pink or neonatal advanced life support

Obtain certification in pediatric advanced life support

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Demonstrate proper procedure for hyperinflation

Competency Builders:

Identify patient

Determine if patient is a candidate for hyperinflation therapy according to clinical practice guidelines

Determine proper hyperinflation technique for the patient

Identify contraindications and hazards of hyperinflation therapy

Demonstrate proper hyperinflation techniques (IPPB and SMI)

Monitor patient and document therapy given appropriately

Unit: Physical Therapy

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Define patient needs

Competency Builders:

- Obtain data through patient/responsible party interview
- Gather information from medical record
- Observe patient
- Identify activities of daily living, work, and leisure
- Identify architectural barriers to patient mobility
- Identify contraindications for treatment
- Identify need for intervention (e.g., occupational therapy, speech therapy)
- Adjust treatment activities in accordance with patient tolerance
- Demonstrate proper methods of positioning and draping patient
- Provide for patient privacy
- Consult with physical therapist
- Observe, document, and report patient progress

BIL: Recommended

EDU:	12	AD	AC
		P	S

Competency: Monitor patient progress

Competency Builders:

- Perform goniometry
- Perform manual muscle test
- Record measurements (e.g., wounds, edema, atrophy)
- Describe progress as defined by goals
- Define changes in patient status (e.g., strength, pain, functional skills)
- Document progress in patient's record
- Define quality improvement process
- Demonstrate knowledge of commonly used manual test
- Perform home and community re-entry and job simulations

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Develop therapeutic interventions

Competency Builders:

Gather data from assessments

Prioritize patient problems

Identify realistic goals

Identify length of time to achieve goals

Identify therapeutic procedures that have potential for achieving goals

Identify the influence of biological, psychological, cognitive, social, and cultural factors on compliance and achievement of goals

Contribute to the development of the treatment plan

Explain plan of treatment and goals to patient responsible party

Consult with physical therapist (e.g., treatment termination)

Review prescribed orders

Refer to other community resources as needed

Participate in discharge planning

Identify medications and potential side effects

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Perform therapeutic measures

Competency Builders:

- Collaborate with the physical therapist
- Prepare treatment area
- Prepare equipment and modalities
- Prepare patient for treatment
- Explain indications, contraindications and possible side effects of treatment
- Assist patient with relaxation exercises
- Assist patient with strengthening exercises
- Assist patient with range of motion exercises
- Assist patient with endurance exercises
- Assist patient with balance exercises
- Assist patient with gross motor coordination
- Assist patient with gait training
- Assist patient with neurological techniques (e.g., NOT, PNF)
- Perform manual therapy techniques
- Instruct patient in functional activities (e.g., mobility, transfers)
- Assist patient with work-hardening activities
- Assist with paraffin treatment
- Assist with hydrotherapy
- Assist with fluidotherapy
- Assist with diathermy
- Assist with contrast bath
- Apply hot packs
- Apply cold therapy (e.g., cryotherapy)
- Perform ultrasound techniques
- Apply therapeutic electrical stimulation (e.g., TENS, MENS, NMES)
- Apply ultraviolet treatment
- Apply mechanical traction
- Apply intermittent venous compression
- Assist with prosthetic training
- Assist with use of orthotics

Measure for custom pressure gradient garments
Assist with use of pressure garments
Apply bandages
Apply dressings
Perform wound debridement
Perform therapeutic massage
Perform tilt table treatment
Assist in set-up and removal of electromyogram (EMG) biofeedback equipment
Monitor patient use of therapeutic equipment
Instruct patient in use of body mechanics
Monitor medical equipment attached to patient during treatment (e.g., oxygen, IVs, catheters, drainage tubes)

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BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Demonstrate basic knowledge of kinesiology

Competency Builders:

Define terminology related to kinesiology

Explain the basis for structural kinesiology

Identify all bones in the appendicular skeleton

Identify the thorax, vertebral column, and skull in the axial skeleton

Identify the types of joints and their respective movements

Explain basic mechanics of muscular action (e.g., structural muscle types, attachments, types of contractions, and neuromuscular basis)

List actions of particular muscles, including origin and insertion in shoulder girdle, shoulder joint, elbow, wrist, hand, fingers, hip joint, knee joint, ankle/foot, and cervical, thoracic, and lumbar spine

Perform muscular analysis of selected exercises and activities

Describe selected exercises and activities using skeletal, muscular, and movement terminology and muscular analysis

Describe methods of inhibition or facilitation of motor responses and principles of sensory integration

Explain basic skills of athletic performance and physical fitness

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Use physical therapy equipment

Competency Builders:

Identify need

Refer for resources

Seek prescription or refer to outside source if needed

Request letter of justification from physical therapist

Instruct patient/responsible party in correct use of equipment

Assess performance of equipment

Adjust and modify equipment

Request termination of equipment with physical therapist and doctor

Document outcome

Identify principles of using adaptive equipment

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Assist in ongoing assessment

Competency Builders:

Conduct an interview

Screen patient for need of re-evaluation

Explain re-evaluation plan

Administer standardized test

Consult with physical therapist regarding recommendations

Record test results and recommendations

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Perform patient chart review

Competency Builders:

- Review record for appropriate signatures (e.g., co-signatures)
- Review record for completeness of information (e.g., progress notes, treatment logs, discharge summary information)
- Determine time period to be covered by evaluation/re-evaluation
- Participate in peer review

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Maintain current certification and continuing education/professional code of ethics

Competency Builders:

Maintain AHA/ARC standards for CPR proficiency

Prepare for state licensing exam

Maintain American Physical Therapy Association (APTA) standards of practice and code of ethics

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Identify and respond to special care situations

Competency Builders:

- Provide care for the needs of geriatric, mentally/physically challenged, non-English-speaking, and psychologically disturbed patients
- Manage behavioral emergencies including disruptive patients
- Provide care for the terminally ill
- Describe aspects of scene safety

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Apply Center for Disease Control (CDC) guidelines

Competency Builders:

Identify ways communicable diseases can be transmitted

Demonstrate knowledge of CDC guidelines

Practice universal precautions

Describe procedures for reporting and follow-up after exposure to a communicable disease

Describe methods used to disinfect equipment and vehicles involved with an infectious patient

BIL: Recommended

EDU:	12	AD	AC
		I	C,S,M

Competency: Perform record keeping to maintain billing records

Competency Builders:

Retrieve information to complete records

Encode records (e.g., ICD & CPT; Dept. specific codes)

Monitor codes to assure timeframes

Consult with physical therapy regarding billing (e.g., 3rd party payers, frequency parameters)

Implement changes in policies & procedures

BIL: Essential

EDU:	12	AD	AC
		P	

Competency: Use of orthotics

Competency Builders:

Identify need

Consult with physical therapy

Select or design a pattern

Select equipment/materials

Construct orthosis

Seek prescription or refer to outside source if needed

Fit or modify orthosis

Write instructions for care and usage

Document outcome

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Treat patient in functional activities

Competency Builders:

- Instruct patient in dressing
- Instruct patient in edema control techniques
- Instruct patient in proper positioning techniques
- Instruct patient in time-management
- Instruct patient in employment preparation
- Instruct patient in object manipulation
- Instruct patient in play and leisure activities
- Instruct patient in relaxation techniques
- Instruct patient in assertive behaviors
- Instruct patient in energy conservation techniques
- Instruct patient in joint protection techniques
- Instruct patient in use of public transportation
- Instruct patient in transfer techniques
- Instruct patient in wheelchair mobility
- Instruct patient in bed mobility
- Instruct patient in use of orthosis
- Instruct patient in use of prosthesis
- Instruct patient in use of adaptive equipment
- Retrain patient in hand dominance

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Engage patient in purposeful activities

Competency Builders:

- Involve patient in fine and gross motor coordination activities
- Involve patient in strength activities
- Involve patient in to social skill improvement activities
- Involve patient in endurance activities
- Involve patient in range of motion activities
- Involve patient in reflex integration activities
- Involve patient in sensory awareness activities
- Involve patient in sensory motor integration activities
- Involve patient in visual perception activities
- Involve patient in body awareness activities
- Involve patient in cognitive skill activities
- Involve patient in cognitive integration skill activities
- Involve patient in self-concept activities
- Involve patient in situational coping skill activities
- Involve patient in balance activities
- Involve patient in community involvement activities

Unit: The Nursing Process

BIL: Essential

EDU:	12	AD	AC
		P	S,C,M

Competency: Perform patient assessment

Competency Builders:

Put patient at ease

Provide privacy

Demonstrate techniques used in patient assessment (e.g., communication, inspect, auscultate, percuss, palpate)

Evaluate patient's level of comfort, discomfort and pain

Perform assessment of all systems

Complete assessment forms

Document findings

Compare to norms and medical diagnoses

Communicate abnormal findings to physician

BIL: Essential

EDU:	12	AD	AC
		P	S,C,M

Competency: Collect additional patient data

Competency Builders:

Observe psychological signs and symptoms

Assess ability to perform ADL's

Gather relevant data and demographics from patient, responsible party, health records and health care team members

Complete health history, including prescribed /OTC drugs, patterns and immunization/allergy history

Observe interaction of patient and/or responsible party

Observe patient response to care

Document additional assessment findings

Assess development age of the patient

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Formulate nursing diagnoses

Competency Builders:

Identify actual or potential health care needs on the basis of analysis and interpretation of assessment data

Establish nursing diagnosis according to prevailing standards of nursing practice

Identify difference between medical and nursing diagnosis

Prioritize diagnoses

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Formulate patient plan of care

Competency Builders:

Participate with the patient, responsible party, and health care team to identify patient-centered goals and objectives

Incorporate patient's cultural and spiritual beliefs into plan of care

Incorporate patient's physiological, psycho-social, and developmental needs and strengths into plan of care

Develop teaching plan

Develop discharge plan

Utilize available resources

Identify priorities for care

Write plan of care

Establish timeframe for nursing interventions

Describe nursing interventions and outcomes

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Implement safe, effective, comforting patient-centered nursing care across the life-span

Competency Builders:

- Implement plan of care according to priority of needs
- Adjust priorities as patient needs change
- Demonstrate competency in nursing skills
- Promote rehabilitation potential of patient
- Promote psychological well-being of the patient and significant others
- Provide for continuity of care
- Make referrals on the basis of patient need and available resources (e.g., community, responsible party)
- Respond to adverse reactions
- Support dying patients and their significant others
- Demonstrate principles of time management in organizing patient care
- Incorporate safety measures into plan of care

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Evaluate outcomes of nursing care

Competency Builders:

Describe/document effect of nursing interventions

Verify patient and/or responsible party compliance with planned care

Identify which outcomes/patient-centered outcomes have been met

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Revise plan of nursing care

Competency Builders:

Reassess patient needs and outcomes of care

Utilize input from patient, responsible party, and health care team members

Modify goals to meet patient needs

Unit: Nursing Communication Skills

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Demonstrate effective patient interviewing techniques

Competency Builders:

- Identify methods to obtain information and support patient during interview
- Describe factors that facilitate or hinder a patient interview
- Apply principles of therapeutic communication
- Evaluate response and patient outcomes
- Practice confidentiality

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Report assessment of patient outcomes and nursing actions

Competency Builders:

- Explain the legal basis of specific charting guidelines and confidentiality issues
- Identify measures employed to ensure documentation meets agency and legal standards
- Document the assessment of patient and nursing actions in writing
- Identify concise, accurate, and relevant information to convey to others with a need to know

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Implement a teaching plan for an identified patient learning need

Competency Builders:

- Differentiate teaching from learning
- Identify the role of the nurse in health teaching
- Explain ways to reinforce new knowledge
- Describe factors which influence a patient's readiness to learn
- Identify one or more learning needs of a patient or responsible person/support system
- Identify guidelines for evaluating the effectiveness of the health teaching plan
- Write a health teaching plan
- Identify educational level and learning style of client and/or significant others
- Verify learning

BIL: Recommended

EDU:	12	AD	AC
		I	C,S

Competency: Demonstrate use of research strategies

Competency Builders:

- Identify resources relevant to patient care
- Utilize findings relating to research in health care
- Identify print and electronic methods used to research
- Use the problem solving approach in nursing practice
- Identify research problems that need to be studied
- Utilize research data in nursing practice

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Apply management skills for patient care

Competency Builders:

Identify the characteristics of an effective leader

Explain the significance of an organizational chart to communication units

Describe different approaches to management of nursing care (e.g., primary care, team nursing)

Contrast the advantages and disadvantages of each system of nursing care

Participate in a multi-disciplinary team

Prioritize

Identify and implement cost-effective methods of obtaining patient outcomes yet provide for safe, effective care

Identify legal criteria for delegating tasks

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Demonstrate knowledge of the evaluation process necessary for effective management of nursing care

Competency Builders:

- Construct an evaluation of nursing performance in measurable terms
- Explain how the nursing audit contributes to quality assurance
- Explain how medical and nursing audits are used by accrediting and regulatory agencies

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Demonstrate nursing management of groups of patients

Competency Builders:

- Assess the nursing needs of patients and the skill level of staff necessary to care for these patients, based on an analysis of acuity
- Assess the staff necessary to care for these patients, based on an analysis of acuity
- Set goals and priorities based on individual patient care needs
- Collaborate with other members of the health care team to provide quality care
- Provide coordinated and continuous patient care
- Participate in multi-disciplinary team conferences
- Assess knowledge level of staff and patients
- Plan measures to assist patients and staff members to achieve goals
- Assess and delegate, to ancillary personnel procedures/goals
- Transcribe physician orders correctly in a timely manner
- Give concise and pertinent report to the on-coming shift
- Disseminate reports to appropriate units
- Write discharge planning criteria for the patient
- Evaluate the impact of nursing interventions by health care team members
- Participate in quality assurance procedures within a health care institution or agency

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Discuss trends and issues in health care delivery

Competency Builders:

Describe trends that are evident in promoting transcultural health care

Illustrate how a health care practitioner can participate in promoting cultural sensitivity in health care practice

Analyze various practice roles

Describe the legalities of the health care practitioner's expanding role

Discuss the purpose and functions of professional organizations including the American Nurses Association, National League for Nursing, State Board of Nurse Examiners and other regulatory agencies (e.g., JCAHO, Medicaid/Medicare)

Discuss economic and political factors in health care delivery

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Explain the scope and standards of nursing practice

Competency Builders:

Define evolution of nursing profession

Discuss components of Nurse Practice Act

Interpret laws pertinent to nursing practice

Examine the legislative process' impact on nursing practice

Unit: Nursing Clinical Procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: **Use safety and legal precautions in performing nursing procedures**

Competency Builders:

- Identify procedure needed
- Verify doctor order, as appropriate
- Read procedure manual
- Gather equipment
- Explain procedure and expected outcome to patient/resident/client
- Explain possible adverse reactions/complications
- Document procedure and patient response
- Communicate untoward response to physician
- Verify patient identity
- Provide for patient privacy

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Perform or delegate and evaluate basic care skills

Competency Builders:

- Provide for patient privacy when indicated
- Assist patient with elimination
- Change clothing
- Give patient bath (e.g., assisted; complete)
- Perform hygienic care for skin, hair, mouth, perineum, feet, nails
- Apply athrombic hose
- Administer backrub
- Make different types of beds
- Feed patient
- Measure intake and output
- Record intake and output
- Prevent pressure areas
- Provide care for relaxation and sleep
- Demonstrate patient transfer and transport techniques
- Demonstrate basic care of hearing aid
- Assist with modifying patient food and fluid intake
- Perform range of motion (ROM) exercises
- Assure protective patient positioning

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Demonstrate safe, effective equipment operation in health care settings

Competency Builders:

Demonstrate use of emergency cart

Demonstrate safe, effective use of basic therapeutic in patient care area or home

Demonstrate use of monitoring equipment

Explain use of basic life-support equipment

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Perform safe and effective non-invasive procedures, using standard precautions

Competency Builders:

- Demonstrate proper methods of positioning and draping a patient
- Identify steps to admit patient
- Inventory patient possessions
- Utilize hot/cold therapies
- Demonstrate patient restraint methods
- Prepare patient for surgery
- Receive patient from surgery
- Administer post-operative care
- Change ostomy appliance
- Instruct in coughing and deep breathing exercises
- Identify steps to transfer patient to another unit/facility
- Remove sutures and staples
- Provide postmortem care
- Identify steps to discharge patient
- Complete discharge summary
- Perform cast care
- Assist with sitz bath
- Empty drainage systems
- Create a sterile field
- Apply pressure dressings
- Provide skeletal traction care
- Maintain internal feedings (e.g., nasogastric, gastrostomy)
- Maintain chest tube
- Provide care of surgical drains
- Maintain central venous lines
- Maintain intravenous (IV) infusions
- Apply binders
- Maintain oxygen devices
- Maintain airway

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M,C

Competency: Demonstrate invasive procedures safely and effectively, using standard precautions and protocols according to physician's order

Competency Builders:

- Administer enemas
- Insert rectal tubes
- Irrigate ostomy
- Change dressings
- Demonstrate vaginal irrigation/douche
- Demonstrate oro/nasopharyngeal suctioning
- Demonstrate tracheal suctioning
- Irrigate wounds
- Insert urinary catheter
- Perform intermittent and continuous bladder irrigations
- Maintain nasogastric tube
- Remove tubes
- Perform tracheostomy care
- Perform decubitus care
- Perform eye irrigation
- Perform ear irrigation
- Maintain artificial airway

BIL: Essential

EDU:	12	AD	AC
		P	S.C

Competency: Assist with sterile procedures, using standard precautions

Competency Builders:

- Don sterile gloves, mask/faceshield, and gown as appropriate
- Prepare patient for procedure(s)
- Assist with procedure(s)
- Carry out physician's orders
- Assist with insertion and removal of sutures and staples
- Remove contaminated dressing
- Apply sterile dressing
- Document procedure and patient response
- Follow-up patient needs

Unit: Medication Use

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Maintain supply of medications

Competency Builders:

Check inventory stock

Contact supplier

Rotate stock

Store medications properly

Prepare expired medications for disposal

Dispose of medications properly (e.g., comply with government regulations)

BIL: Essential

EDU:	12	AD	AC
	I	P	M,S,C

Competency: Calculate dosage according to physician's orders

Competency Builders:

Verify accuracy of medical orders

Use appropriate references for fact-finding and comparisons

Transcribe medication order

Calculate dosage (e.g., oral, parenteral, sublingual, pediatric)

Calculate intravenous dosage and rate of flow

Calculate intravenous dosage and rate of flow

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C,M

Competency: Administer medications according to physician's orders as applicable to the profession

Competency Builders:

Identify patient

Verify patient allergies

Use reference materials

Verify accuracy of medical orders

Identify correct anatomical sites

Identify dosage forms (e.g., oral, injectable, sublingual, transdermal, inhalant, instillation, topical, rectal, vaginal, and injectable)

Prepare oral medication

Administer medications

Document medication administration

Prepare intravenous injectable material and patient

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Evaluate response to medication

Competency Builders:

- Identify possible adverse reactions to medication
- Assess patient reaction to medication
- Report untoward reactions to appropriate sources
- Document patient response to medication

Unit: Clinical Chemistry

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C,M

Competency: Use terminology related to clinical chemistry

Competency Builders:

Define clinical chemistry terms

Spell clinical chemistry terms

Identify the designations used for weights and measures

Use the abbreviations for weights and measures

BIL: Essential

EDU:	12	AD	AC
	P	R	S,M

Competency: Prepare solutions

Competency Builders:

Prepare molar solutions

Prepare normal solutions

Prepare percentage solutions (e.g., w/w, w/v, v/v)

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Handle blood specimens for analysis

Competency Builders:

List differences between serum, plasma, and whole blood

Use anticoagulants for each analysis performed

Explain effects of using improper anticoagulants

Explain ways to prevent hemolysis

Collect blood in collecting tubes for analysis (e.g., clotted, anticoagulant)

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Handle body fluids for chemical analysis

Competency Builders:

List types of urine preservatives

Explain when different types of urine preservatives are used

Perform cerebral spinal fluid analyses

Perform analyses of other body fluids

BIL: Essential

EDU:	12	AD	AC
		P	S,M

Competency: Perform kidney function and clearance tests

Competency Builders:

Explain kidney function tests

Perform kidney function tests (e.g., creatinine)

List the normal values of kidney function tests

Explain kidney clearance tests

Perform kidney clearance tests (e.g., creatinine clearance)

List the normal values of kidney clearance tests

Calculate kidney function tests

Identify kidney related pathologies (e.g., renal failure)

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform liver function tests

Competency Builders:

Identify liver function tests

Perform liver function tests

Identify tests that are elevated in liver disease

Identify liver enzymes and isoenzymes

List normal values of liver function tests

Identify abnormal values

Identify liver related pathologies (e.g., cirrhosis)

Identify tests that are elevated in obstructive jaundice

Identify tests that are elevated in hemolytic jaundice

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform glucose tests

Competency Builders:

Define terminology related to carbohydrates

List the uses of carbohydrates by the body

Describe the tests for all carbohydrates and reducing substances

Describe the true glucose tests (e.g., glucose specific)

Perform blood tests for glucose

Perform urine tests for glucose

Perform spinal fluid tests for glucose

Perform oral glucose tolerance test

Perform intravenous glucose tolerance test

Differentiate among a normal glucose tolerance curve, a diabetic glucose tolerance curve, and a hypoglycemia curve

Identify normal values

BIL: Essential

EDU:	12	AD	AC
		P	S,M

Competency: Perform protein tests

Competency Builders:

List functions of proteins

List what makes up a total protein

Explain the A/G ratio

List body constituents made up of protein (e.g., hemoglobin, fibrinogen, enzymes)

Explain the methods of total protein analysis

List normal values of total protein analysis

Explain the principles of total protein analysis tests

Explain the various methods of albumin analysis

List the normal values of albumin analysis

Explain the principles of albumin analysis tests

Explain the various methods of globulin analysis

List the normal values of globulin analysis

Explain the principles of globulin analysis tests

Explain the principle of protein electrophoresis

Explain the various procedures for protein electrophoresis

Describe the proper migration pattern of the plasma proteins

Identify electrophoretic patterns in disease

Perform various methods for protein tests

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M

Competency: Perform electrolytes tests

Competency Builders:

- Define cations and anions
- Explain electrolyte balance
- Define extracellular cations and anions
- Define intracellular cations and anions
- List the normal values of cations and anions
- Perform tests for anions and cations
- List abnormal values
- Calculate anion gap
- Explain methods of electrolyte testing

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform carbon dioxide tests

Competency Builders:

Explain different carbon dioxide tests

Perform different carbon dioxide tests

Identify normal values of carbon dioxide tests

Identify abnormal values

BIL: Recommended

EDU:	12	AD	AC
		P	S

Competency: Perform blood gas tests

Competency Builders:

List normal blood gas values

Explain the various methods of blood gas analysis

Perform blood gas analysis

Identify abnormal values

Identify respiration acidosis/alkalosis

Identify metabolic acidosis/alkalosis

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Explain mineral metabolism

Competency Builders:

- List the minerals of the body
- Describe mineral metabolism
- List normal values
- List abnormal values
- Perform mineral analysis

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform enzyme analysis

Competency Builders:

Describe methods of enzyme analysis

List the enzymes of the pancreas and their functions

Describe the tests used to determine pancreatic enzyme activities

List the enzymes and isoenzymes of the heart and their functions

List the order in which enzymes and/or isoenzymes of the heart rise and return to normal

Explain LDH1:2 flip

Explain the use of acid phosphatase

Perform various enzyme analysis tests

List the enzymes and isoenzymes of the liver and their functions

Explain the use of acid phosphatase

List the parts of the body that are rich in acid phosphatase

List normal ranges

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform thyroid gland tests

Competency Builders:

Explain the function of the thyroid gland

Explain various thyroid function tests

Perform thyroid function tests

List normal values of thyroid function tests

Identify thyroid related pathologies (e.g., hyperthyroid disease)

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform tests for gout

Competency Builders:

Explain the principle of the test for gout (e.g., uric acid)

Perform the test for uric acid

List the metabolism of purines in food

Explain how uric acid is formed

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform miscellaneous tests

Competency Builders:

Perform gastric fluid analysis

Explain principles of electrophoresis

Perform therapeutic drug monitoring

Perform tests for drug abuse

Identify therapeutic values

Perform tests for HDL, LDL, VLDL, cholesterol, triglyceride, and other lipids

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Use laboratory instruments

Competency Builders:

- List the parts of the photoelectric colorimeter and their functions
- Explain the principle of the photoelectric colorimeter
- Use a photoelectric colorimeter
- List the parts of the spectrophotometer and their functions
- Explain the principle of the spectrophotometer
- Explain the difference between a colorimeter and a spectrophotometer
- Describe how light waves are measured
- Use a spectrophotometer
- Define terminology related to light and wavelengths
- Calibrate a colorimeter and spectrophotometer
- List the parts of a flame photometer and their functions
- Explain the principle of the flame photometer
- List the chemicals that are analyzed by the flame photometer
- Use a flame photometer
- List the parts of an atomic absorption spectrophotometer and their functions
- Explain the principle of the atomic absorption spectrophotometer
- List the uses of the atomic absorption spectrophotometer
- List the parts of the fluorescence spectrophotometer and their functions
- Explain the principle of the fluorescence spectrophotometer
- List the tests performed on the fluorescence spectrophotometer
- Use a fluorescence spectrophotometer
- List the parts of continuous flow analysis and their functions
- Perform continuous flow analysis
- List the instruments that perform discrete analysis, the parts related to them, and their functions
- Use discrete analysis instruments
- List the parts of a random access analyzer and their functions
- Explain the principle of the random analyzer
- List the chemicals that are analyzed by a random analyzer
- Use a random analyzer

List the parts of a radioimmunoassay (RIA) analyzer and their functions
Explain the principle of an RIA analyzer
List the chemicals that are analyzed by an RIA analyzer
Use an RIA analyzer
List the parts of an enzyme immunoassay (EIA) analyzer and their functions
Explain the principle of an EIA analyzer
List the chemicals that are analyzed by an EIA analyzer
Use an EIA analyzer
List the parts of a nephelometer analyzer and their functions
Explain the principle of a nephelometer analyzer
List the chemicals that are analyzed by nephelometer analyzer
Use a nephelometer analyzer
List the parts of an osmometer analyzer and their functions
Explain the principle of an osmometer analyzer
List the chemicals that are analyzed by an osmometer analyzer
Use an osmometer analyzer
List the parts of an ultraviolet spectrophotometer analyzer and their functions
Explain the principle of an ultraviolet spectrophotometer analyzer
List the chemicals that are analyzed by an ultraviolet spectrophotometer analyzer
Use an ultraviolet spectrophotometer analyzer
List the parts of a fluorescence polarization immunoassay (FPIS) analyzer and their functions
Explain the principle of an FPIS analyzer
List the chemicals that are analyzed by an FPIS analyzer
Use an FPIS analyzer
Use other laboratory instruments (e.g., balance, pH meter, refractometer, blood gas apparatus, electrophoresis apparatus, automatic pipette, burette)

BIL: Essential

EDU:	12	AD	AC
		P	S,C

Competency: Maintain laboratory instruments

Competency Builders:

Maintain chemical analyzers including calibration, preventive maintenance and routine trouble shooting

Maintain other laboratory instruments (e.g., balance, pH meter, refractometer, blood gas apparatus, electrophoresis apparatus, automatic pipette, burette)

Clean glassware and pipettes

Maintain glassware and pipettes

Record all maintenance performed

Unit: Immunohematology

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Use terminology related to immunohematology

Competency Builders:

Define immunohematology-related terminology

Spell immunohematology-related terminology

Define secretors

Explain significance of secretors in immunohematology

Identify blood components

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Explain antigens and antibodies

Competency Builders:

- Explain the principle of antigen-antibody reactions
- Describe the history of the ABO system and the Rh system
- Chart the chemical structure of the H, A, and B antigens
- Describe the antigens of the ABO system
- Describe the antibodies of the ABO system
- List the phenotypes and genotypes of the Rho(D) system
- Explain the genetics of blood group antigen
- Describe additional antigen systems (e.g., M&N, Duffy, Lewis, Kell)

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe antibodies

Competency Builders:

List the five major immunoglobulins

List the immunoglobulins or antibodies that are important in the ABO and Rh systems

List the natural antibodies and their functions

List the 7S and 19S antibodies and their functions

Explain the function of bivalent or complete antibodies

Explain the function of univalent, incomplete, or blocking antibodies

Explain Zeta potential

Describe how the anti-human globulin helps in detecting the blocking, univalent, or incomplete antibody

Explain how anti-human globulin is produced

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Describe subgroups of A

Competency Builders:

List the subgroups of A

Describe how subgroups of A are tested

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Describe enzyme tests

Competency Builders:

List the enzyme tests that are used in immunohematology

Differentiate purposes and methods of enzyme tests used in immunohematology

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Describe Rh nomenclatures

Competency Builders:

Explain Fisher-Race nomenclature

Explain Wiener nomenclature

Explain Rosenfeld nomenclature

Compare Fisher-Race, Wiener, and Rosenfeld nomenclatures

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform Du test

Competency Builders:

Perform Du test in Rh typing

Perform Du test to choose donors for transfusions

Perform Du test for blood recipients

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Describe M and N systems

Competency Builders:

Differentiate M and N systems

Use M and N systems in immunohematology

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Type blood

Competency Builders:

Perform direct or forward blood group method

Perform reverse typing

Perform Rho(D) typing

Perform typing for subgroups of A

Perform genotyping

Explain the principle of the antiglobulin test

Explain the principle of the indirect antiglobulin test

Perform indirect antiglobulin test

Interpret indirect antiglobulin test

List the uses of the indirect antiglobulin test

Perform direct antiglobulin test

Interpret direct antiglobulin test

List uses of direct antiglobulin test

List drugs responsible for red blood cell sensitization that cause a positive direct antiglobulin test

Perform direct antiglobulin profile

Interpret the direct antiglobulin profile

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Crossmatch blood

Competency Builders:

Explain the principle of the crossmatch procedure

Perform crossmatch procedure (e.g., anti-human globulin crossmatch)

Interpret results of crossmatch procedure

List reasons for autocontrol on crossmatch test

Perform autocontrol test with crossmatch

Explain reasons for using Coombs control test

Perform Coombs control test

List errors that can occur in the crossmatch procedure (e.g., overmixing after centrifugation, improper washing of Coombs tube before addition of Coombs serum)

Identify incompatible crossmatch

Perform follow-up procedures for incompatibility

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Use Rho(D) immune globin criteria

Competency Builders:

Explain the principle of the Rho(D) immune globin

List to whom Rho(D) immune globin should be given

List indications as to when Rho(D) should be given

List the criteria used to declare patients candidates for receiving Rho(D) immune globin

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Elute antibodies

Competency Builders:

- Use heat elution to elute antibodies from red blood cells
- Use freeze elution to elute antibodies from red blood cells
- Use acid elution to elute antibodies from red blood cells

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Draw blood from donors

Competency Builders:

- Explain blood donor requirements
- Perform therapeutic phlebotomies
- Explain various physical criteria
- Explain medical history criteria

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Operate blood bank

Competency Builders:

- Visibly inspect units of blood
- Dispose of blood bags and patient samples
- Store blood and blood products for transfusion
- Investigate transfusion reactions
- Investigate hemolytic diseases in newborn
- Describe blood components
- Describe the uses of blood components
- Prepare blood for storage
- Store blood
- Perform quality control on all reagents
- Record all quality control procedures
- Check label to verify blood type
- Identify patient specimen properly
- Follow American Association of Blood Bank (AABB) protocols

Unit: Immunology and Serology

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Use immunology and serology terminology

Competency Builders:

- Define terminology related to immunology and serology
- Spell terminology related to immunology and serology

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Perform immunologic examination

Competency Builders:

Explain the principle of immunologic examination

Identify antigen-antibody reaction

Describe the relationship of T and B cells to antibody production

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Test for syphilis

Competency Builders:

Define syphilis

Describe the stages of infection

Perform different types of serological tests for syphilis

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform serologic test for syphilis

Competency Builders:

Perform qualitative VDRL and RPR tests

Perform quantitative VDRL and RPR tests

Perform fundamentals of complement-fixation tests

List quality control procedures for all immunologic tests

Perform quality control

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform agglutination tests

Competency Builders:

Perform latex agglutination tests

Perform hemagglutination

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform immunologic and serologic procedures

Competency Builders:

Explain theory of C-reactive protein (CRP)

Perform CRP

Explain theory of anti-Streptolysin screen (ASO) and titer

Perform ASO

Explain theory of heterophile agglutination

Perform heterophile quantitative with sheep cells, guinea pig, and horse serum absorption

Perform heterophile qualitative with latex agglutination or blood cell agglutination tests

Perform rheumatoid arthritis tests (e.g., latex agglutination)

Perform systemic lupus erythematosus (SLE or LE agglutination) tests

Perform red cell fragility tests

Perform anti-nuclear antibody tests

Perform antigen detection of organisms in spinal fluid (e.g., Directogen™ test and Bactogen™ test)

Perform fluorescent antibody procedures

Perform group typing of bacterial growth

Explain principles of test for radial immunodiffusion (RID)

Perform the test for RID

Perform serum pregnancy test (HCG)

Perform tests for hepatitis

Perform febrile agglutination tests

Perform monospot test

Differentiate among weil felix, widel, and febrile agglutination testing

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Explain tests for other viruses

Competency Builders:

Explain test for cytomegalovirus

Explain test for retrovirus

Explain test for Epstein-Barr virus

Explain test for acquired immune deficiency syndrome (AIDS)

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Detect cold agglutinins

Competency Builders:

Define cold agglutinins

Perform tests to detect cold agglutinins

Eliminate cold agglutinins when they interfere with blood grouping and/or crossmatching of blood

Unit: Bacteriology

BIL: Essential

EDU:	12	AD	AC
	P	R	S

Competency: Use terminology related to bacteriology

Competency Builders:

- Define terms related to bacteriology
- Spell terms related to bacteriology
- Identify types of bacteria by shapes
- Describe the growth curve of bacteria

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Identify types and uses of culture media

Competency Builders:

Identify the different culture medias

List the uses of the different culture medias

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Culture specimens

Competency Builders:

Select appropriate culture media

Use concentration methods for sputum specimens to be cultured for acid-fast bacilli

Culture sputums for acid-fast bacilli

Examine smears for acid-fast bacilli

Type cultures using type-specific typing sera

Perform proper plating techniques

List the uses of culture media (e.g., bile esculin agar, bismuth sulfite [BS], blood agar, Bordet-Gengou, brilliant green agar, chocolate agar with V and X factors, chopped meat glucose broth, cornmeal agar, cystine tellurite blood agar, desoxycholate agar, desoxycholate citrate agar, eosin methylene blue [EMB], Flides enrichment agar, Loeffler's, Lowenstein Jensen [L-J], MacConkey)

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Stain smears

Competency Builders:

Explain staining procedures (e.g., Gram's, hot and cold acid-fast, Giemsa and Wright's, India Ink, fluorescent, and methylene blue)

Describe uses of different stains

Perform stains

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform differentiating tests

Competency Builders:

- Perform coagulase test
- Perform bile exculin test
- Perform bile solubility test
- Perform catalese test
- Perform oxidase test
- Perform optochin disc test
- Perform bacitracin disc test
- Perform beta lactam disk test

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify gram-positive cocci

Competency Builders:

Isolate gram-positive cocci

Identify gram-positive cocci

Differentiate one gram-positive cocci from another

Differentiate normal/pathologic flora

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify gram-positive bacilli

Competency Builders:

Isolate gram-positive bacilli

Identify gram-positive bacilli

Differentiate one gram-positive bacilli from another

Differentiate normal/pathologic flora

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify gram-negative cocci

Competency Builders:

Isolate gram-negative cocci

Identify gram-negative cocci

Differentiate one gram-negative cocci from another

Differentiate normal/pathologic flora

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify gram-negative enterobactereaceae

Competency Builders:

- Isolate gram-negative Enterobactereaceae
- Identify gram-negative Enterobactereaceae
- Differentiate genera and species
- Differentiate normal from pathologic flora

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify gram-negative bacilli

Competency Builders:

Isolate nonfermenting gram-negative bacilli and the so-called miscellaneous gram-negative bacilli (e.g., Pseudomonas, Bordetella, Hemophilis, Brucella, and Campylobacter)

Identify nonfermenting gram-negative bacilli and the so-called miscellaneous gram-negative bacilli

Differentiate nonfermenting gram-negative bacilli and the so-called miscellaneous gram-negative bacilli

Differentiate normal from pathologic flora

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform antimicrobial sensitivity testing

Competency Builders:
Use Kirby-Bauer system
Use MIC system
Use automated system

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Use bacterial identification systems

Competency Builders:

Describe systems for bacterial identification (e.g., API, enterotube, automated systems, biochemical, and carbohydrate systems)

Perform bacterial identification using biochemical and carbohydrate system

Perform group typing of bacterial growth

Perform antigen detection of organism in spinal fluid (e.g., Dimetogen‰ test and Bactogen‰ test)

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Culture specimens

Competency Builders:

Culture specimens (e.g., blood urine, stool [feces], sputum, throat, spinal fluid, urethral/cervical)

Use concentration methods for sputum specimens to be cultured for acid-fast bacilli

Culture sputums for acid-fast bacilli

Examine smears for acid-fast bacilli

Type cultures using type-specific typing sera

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform routine mycology procedures

Competency Builders:

Perform KOH preparation

Perform methylene blue staining

Perform lacto-phenol cotton blue staining

Perform culture using Sabaroud agar

Use germ tube

Use cornmeal agar

Perform India ink preparation

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform special tests

Competency Builders:

Perform group A streptococci rapid enzyme immunoassay test (or other detection kits) from throat swabs

Perform group A streptococci cultures for beta hemolysis screening

Perform clostridium difficile toxin test

Unit: Parasitology

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Use parasitology-related terminology

Competency Builders:

Define terminology related to parasitology

Spell terminology related to parasitology

Identify types of parasites (e.g., protozoa, helminthes)

Describe types of parasites

Classify parasites

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform examinations for parasites

Competency Builders:

Examine feces for parasites (e.g., macroscopic examination, microscopic direct saline and iodine preparations, and various concentration methods)

Examine blood, urine and other body fluids for parasites

Examine tissue for parasites

Perform direct method examination for intestinal parasites (e.g., protozoa, trematodes, cestodes, nematodes)

Perform concentration method examination for intestinal parasites

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Perform tests for blood parasites

Competency Builders:

Perform test for malaria

Perform test for filaria

Perform test for trypanosomes

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Perform tests for fats and occult blood

Competency Builders:

Prepare Sudan IV stain for fats

Examine stool for fats

Perform test for occult blood in stool

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Stain for ova and parasites

Competency Builders:

Prepare permanent smears for ova and parasites

Stain permanent smears for ova and parasites using iron hematoxylin method

Stain permanent smears for ova and parasites using trichrome method

Describe the defining characteristics of the cryptosporidium species

Identify cryptosporidium

Stain cryptosporidium

Unit: Urinalysis

BIL: Essential

EDU:	12	AD	AC
	P	R	S,C

Competency: Use terminology related to urinalysis

Competency Builders:

Define terminology related to urinalysis

Spell terminology related to urinalysis

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Identify properties of urine

Competency Builders:

- Explain the formation of urine
- Describe the anatomy of the kidney
- Identify the physical properties of urine
- Identify the chemical properties of urine
- Identify the microscopic structures found in urine

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Explain principles of urine tests

Competency Builders:

Explain the role of specific gravity in urine tests

Explain the role of pH in urine tests

Explain the role of protein in urine tests

Explain the role of glucose in urine tests

Explain the role of ketones in urine tests

Explain the role of occult blood in urine tests

Explain the role of nitrate in urine tests

Explain the role of bilirubin in urine tests

Explain the role of urobilinogen in urine tests

Explain the role of leukocyte esterase in urine tests

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Perform routine urinalysis and urine diagnostics

Competency Builders:
Perform complete urinalysis
Perform tests for pregnancy

BIL: Recommended

EDU:	12	AD	AC
		P	S

Competency: Perform special tests

Competency Builders:

Perform Ictotest™ (Ames) for bilirubin

Perform Bence Jones protein test

Perform sulfosalicylic acid test for protein

Perform test for acetone

Perform tests for reducing substances

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify cells found in urine

Competency Builders:

Identify blood cells found in urine

Describe blood cells found in urine

Identify types of epithelial cells found in urine

Describe types of epithelial cells found in urine

Explain the cause of each type of cell appearing in urine

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify casts found in urine

Competency Builders:

Describe casts found in urine

Explain how casts are formed

Explain where casts are formed

Describe the causes of each type of cast found in urine

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Identify foreign matter found in urine

Competency Builders:

Describe types of pathological crystals found in urine

Identify mucus found in urine

Explain the significance of mucus found in urine

Identify parasites found in urine

Explain the significance of parasites found in urine

Identify spermatozoa in urine

Explain the significance of spermatozoa in urine

Identify bacteria found in urine

Explain the significance of bacteria found in urine

Identify cylindroids found in urine

Explain the significance of cylindroids in urine

Identify yeast found in urine

Explain the significance of yeast found in urine

Identify amorphous material found in urine

Explain the significance of amorphous material found in urine

Unit: Hematology

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Use hematology terminology

Competency Builders:

Define terminology related to hematology (e.g., erythrocytes, lymphopoieses)
Spell terminology related to hematology

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Demonstrate knowledge of erythrocytes

Competency Builders:

Explain the life cycle and life span of erythrocytes

Explain the maturation series of an erythrocyte from its origin to its final destination in the peripheral blood stream

Explain the formation of bilirubin from the destruction of erythrocytes

Identify pathologies of erythrocytes (e.g., anemias)

Identify normal and abnormal values

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M

Competency: Perform erythrocyte tests

Competency Builders:

Explain automated erythrocyte testing

Identify normal erythrocyte values

Perform erythrocyte counts (automated and manual)

Perform hemoglobin determinations

Perform macrohematocrit and microhematocrit determinations

Perform tests used in erythrocyte indices (e.g., mean corpuscular volume—MCV, corpuscular hemoglobin—MCH, and corpuscular hemoglobin concentration—MCHC)

Explain principles and uses of erythrocyte sedimentation rate (ESR)

Describe the types and purpose of Wintrobe, Westergren, and sedimentation rates

Perform each ESR procedure

Perform mathematical calculations for MCV, MCH, and MCHC

Perform reticulocyte counts

Perform sickle cell tests

Perform fetal hemoglobin test

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Demonstrate knowledge of granulocytes, lymphocytes, and monocytes

Competency Builders:

- Explain the maturation series of the neutrophilic granulocytes
- Explain the maturation series of the granulocytic eosinophils and basophils
- Explain the maturation series of the nongranulocytes-lymphocytes
- Explain the maturation series of the nongranulocytes-monocytes
- Explain the maturation series of the thrombocytes (e.g., platelets)
- Explain the origin and function of granulocytes, lymphocytes, and monocytes
- Identify normal percentages of granulocytes, lymphocytes, monocytes, and thrombocytes
- Identify pathologies of white blood cells (e.g., leukemia)
- Identify pathologies of thrombocytes
- Identify normal and abnormal values

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Prepare blood smear stains

Competency Builders:

Make a blood film/smear

Use leukocyte alkaline phosphatase stain

Stain blood films using Wright's and Giemsa's stains

Stain thick smear for malaria

Make cytopsin slide

Use Hansel stains on nasal secretions for eosinophiles

Stain bone marrow smears

BIL: Essential

EDU:	12	AD	AC
		P	S,M

Competency: Perform blood counts and tests

Competency Builders:

Identify functions and elements of blood

Describe the dimensions of the counting chamber

Calculate leukocyte and erythrocyte counts using counting chamber

Perform leukocyte counts

Perform thrombocyte counts

Perform white blood cell differential counts

Perform leukocyte counts on very low very high counts using the manual pipette method

Correct leukocyte counts in the presence of nucleated red blood cells

Describe principles of automated cell counters (e.g., Coulter principle and laser principle)

Perform reticulocyte counts

Perform direct eosinophile counts

Perform sickle cell tests

Perform fetal hemoglobin test

BIL: Essential

EDU:	12	AD	AC
		P	S,M

Competency: Perform body fluid counts

Competency Builders:

- Perform thoracentesis fluid count
- Perform pleural fluid counts
- Perform spinal fluid counts
- Perform joint fluid counts for cells and crystals

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Perform sperm counts

Competency Builders:

Define motility

Describe morphological abnormalities

Analyze appearance

Analyze consistency

BIL: Essential

EDU:	12	AD	AC
		P	S,M

Competency: Perform coagulation and hemostasis tests

Competency Builders:

- Describe principle of hemostasis
- Explain the principle of prothrombin time (PT) test
- Identify coagulation factors tested for when performing prothrombin time (PT)
- Perform PT test
- Explain the principle of partial thromboplastin time (PTT or APTT) test
- Identify coagulation factors by Roman numeral and common name
- Identify coagulation factors tested for when PTT test
- Perform PTT or APTT test
- Explain the principle of capillary bleeding and clotting time tests
- Perform capillary bleeding and clotting time tests
- Identify uses of Lee White coagulation time test
- Perform Lee White coagulation time test
- Perform Duke and Ivy bleeding time test
- Identify uses of template bleeding time test
- Perform template bleeding time test
- Explain the principle of fibrinogen test
- Perform fibrinogen test
- Explain the principles of fibrin degradation test
- Perform fibrin degradation product (FDP) and fibrin split product (FSP)
- Explain the principle of fibrin monomere test
- Perform fibrin monomere test
- Identify uses of clot retraction test
- Perform clot retraction test
- Perform factor assays

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Maintain related instruments and equipment

Competency Builders:

Demonstrate proper use of microscope and centrifuge

Demonstrate proper use of glassware and pipettes

Demonstrate proper use of automated coagulation and hematology equipment

Clean related instruments and equipment

Store related instruments and equipment

Report needed repairs

BIL: Essential

EDU:	12	AD	AC
	I	P	S,M

Competency: Perform quality control

Competency Builders:

- Check temperature of coagulation instruments
- Check temperature of hematology instruments
- Check reagents of coagulation instruments
- Check reagents of hematology instruments
- Check maintenance of coagulation instruments
- Check maintenance of hematology instruments
- Perform manufacturer-specific quality control test procedures
- Label reagents
- Inspect reagents
- Prepare reagents

Unit: Phlebotomy

BIL: Recommended

EDU:	12	AD	AC
	I	P	S,C

Competency: Demonstrate knowledge of health care institutions and departments in which a phlebotomist functions

Competency Builders:

- Identify the health care providers in hospitals and clinics
- Describe the organizational structure of the clinical laboratory department
- Discuss the roles of clinical laboratory personnel
- Discuss the qualifications for clinical laboratory personnel
- List the types of laboratory procedures run in the various sections of the clinical laboratory department
- Describe the role of the clinical laboratory in assessing body functions

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Identify the phlebotomist's role as a member of a health care team

Competency Builders:

Describe the various facilities and departments in which the phlebotomist interacts
Describe the major functions of the various facilities and departments in which the phlebotomist interacts

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe collection equipment, reagents, and interfering factors in blood collection

Competency Builders:

Describe the types of patient specimens that are analyzed in the clinical laboratory

Describe the phlebotomist's role in collecting and transporting these specimens to the laboratory

List the supplies that should be carried on a phlebotomist's tray when collecting microspecimens

Describe substances that can interfere in clinical analysis of blood constituents

Describe procedures used to avoid interference in clinical analysis of blood constituents

List the types of equipment needed to perform a venipuncture

Explain the special precautions employed when collecting blood from a newborn infant

Explain the types of equipment needed to collect blood from a newborn infant

List the equipment needed to perform a heel stick collection on an infant

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Describe proper blood collection procedure, including handling complications that may arise

Competency Builders:

Discuss the legal and ethical importance of proper patient/sample identification

Identify potential sites for venipuncture

Identify potential sites for capillary puncture

List what effects tourniquet, hand squeezing, and heating pads have on skin puncture

List what effects tourniquet, hand squeezing, and heating pads have on venipuncture

Establish a recollection policy

Identify criteria for rejection of a patient sample for testing

Describe why some sites are more difficult to draw blood from than others

Identify which sites are more difficult to draw blood from

Name frequent causes of phlebotomy complications

Explain frequent causes of phlebotomy complications

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Demonstrate knowledge of the disease process route of infection, infection control, and equipment safety

Competency Builders:

Identify the potential routes of infection

Identify the methods for infection prevention

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Explain the protocol for communication, transport, and processing specimens

Competency Builders:

Explain the correct procedure for complying with the request for collection of routine specimens

Explain the correct procedure for complying with the request for collection of special specimens

Explain the rationale for the various methods of transport

Explain the procedure for processing specimens for routine testing from specimen labeling to result reporting manual or computer systems

Explain the reasons for processing procedures

Identify essential information that should be on the laboratory requisition or computer order entry

Describe the significance of time constraints for specimen delivery to the analytical area

Describe schedule constraints imposed by timed operational factors in the laboratory

Identify the precautions applicable to verbal test ordering and reporting

Evaluate results of quality control techniques in specimen collection

Implement corrective quality control techniques where indicated

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Apply quality control and safety procedures

Competency Builders:

Describe a system for monitoring quality assurance in the collection of blood specimens

Identify policies and procedures used to assure quality in the obtaining of blood specimens

Design a strategy to implement a quality assurance program in specimen collection

Describe safety measures that should be followed at all times by the phlebotomist when collecting blood specimens

Evaluate electrical, radiation, and fire safety procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Describe basic concepts of communications, stress management, professional behavior, and the legal implications of the health-related work environment

Competency Builders:

Describe the protocol for preparing a patient for laboratory testing

Describe the preferred techniques for dealing with family and visitors during the blood specimen collection

Explain intra-laboratory communications techniques

Explain inter-laboratory communications techniques

Unit: Emergency Medical Technology I

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: **Apply Center for Disease Control (CDC) guidelines**

Competency Builders:

Identify ways communicable diseases can be transmitted

Demonstrate knowledge of CDC guidelines

Practice universal precautions

Describe procedures for reporting and follow-up after exposure to a communicable disease

Describe methods used to disinfect equipment and vehicles involved with an infectious patient

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Apply aseptic and sterilizing principles

Competency Builders:

Follow manufacturer's instructions for safe operation of all equipment and instruments

Maintain infection control

Store sterilized equipment and supplies

Maintain quality-control log

Define asepsis

Identify methods for sterilizing and disinfecting reusable equipment

Explain why dating of sterilized equipment is necessary

Explain why proper documentation of disinfection and sterilization procedures is necessary

Demonstrate use of sterilized equipment

BIL: Essential

EDU:	12	AD	AC
	I	P	S,C

Competency: Conduct patient assessment for illness/injuries

Competency Builders:

Assess pulse, blood pressure, respiration, and temperature (to include rate, rhythm, quality)

Assess level of consciousness

Assess pupil size and reaction

Assess skin color and temperature

Assess motor neurological status

Assess reaction to pain

Perform an examination for life threatening problems (e.g., primary/secondary survey)

Describe signs and symptoms of patient

Describe the etiology of the patient's condition

List five diagnostic signs in addition to the vital signs

Demonstrate technique for completing a total patient assessment, recording diagnostic signs and their normal states

Assess a trauma victim

Communicate (in proper sequence) patient assessment information

Record (in proper sequence) patient assessment information

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Treat airway obstruction and respiratory arrest

Competency Builders:

Describe the basic mechanics of respiration

Maintain an open airway using nasal oropharyngeal equipment

Clear an obstructed airway

Provide appropriate oxygen therapy and ventilatory assistance

Perform mechanical suctioning of airway

Describe the significance of oxygen to body tissues, particularly the brain

List five components of the respiratory system and the functions of each

List three signs of adequate air exchange

Describe proper usage of oxygen therapy

Demonstrate safe handling of oxygen equipment

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Treat cardiac arrest

Competency Builders:

- Describe the basic mechanics of circulation
- List signs of cardiac arrest
- Perform CPR on adults, children, and infants
- List three possible complications of CPR
- List three instances when CPR may be terminated
- Describe adjunctive equipment used in administration of CRP
- Identify importance of continuing CPR during movement, extrication, and transport of cardiac arrest patient

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Treat bleeding and shock

Competency Builders:

Identify the types and signs of external and internal bleeding

Control bleeding

Identify the types and signs of shock

Treat shock

Use pneumatic counter pressure devices appropriately

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Treat injuries of the head, neck, face, eye, and spine

Competency Builders:

Describe the anatomy and physiology of the autonomic, central, and peripheral nervous system

List signs and symptoms of brain and spinal injuries

Demonstrate care of patients with injuries to skull, face, eye, and neck

Demonstrate care of patients with injuries to the brain and spinal cord

Demonstrate spinal immobilization techniques

Describe assessment(s) of motor, sensory, and perfusion of the extremities before and after assessment, extrication, and transfer

Describe position of the patient after sustaining injuries

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Treat injuries to the chest, abdomen, and genitalia

Competency Builders:

Describe the anatomy and physiology of the abdomen, chest, and genitourinary system

Identify types, signs, and symptoms of injuries to the chest, abdomen, and genitalia

Demonstrate care of patients with injuries to the chest, abdomen, and genitalia

Demonstrate techniques of dressing and bandaging the chest, abdomen, and genitalia

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Demonstrate care for the pediatric patient

Competency Builders:

Assess the pediatric patient

Initiate appropriate age-level treatment

Describe signs, symptoms, and treatment for croup/epiglottitis

Identify normal vital signs in children

Explain management of fevers in children

Describe signs of child abuse

Report signs of child abuse

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Treat environmental emergencies

Competency Builders:

Describe signs, symptoms, and treatment for patients suffering from heat cramps, heat exhaustion, heat stroke, hypothermia, and frostbite

Describe signs, symptoms, and treatment for patients exposed to water-related emergencies

BIL: Essential

EDU:	12	AD	AC
	P	R	C,S

Competency: Maintain patient safety

Competency Builders:

Apply restraints (e.g., soft, vest)

Monitor use of restraints

Assist patient to walk with assistive ambulation devices

Demonstrate safe usage of patient transport equipment

Demonstrate safe handling of patient medical equipment (e.g., IVs, catheters, oxygen tubing)

Position patient maintaining proper body alignment, supporting body parts

Demonstrate patient transfer techniques

Identify safety needs of medicated patient

Demonstrate use of cot and immobilization equipment (e.g., side rails, cot straps, shoulder harness, child restraint seats, backboard straps, KED, collars)

Identify placement of patient call devices/emergency alert devices

Orient patient to surroundings

Identify techniques/procedures to patient

Unit: **Emergency Medical Technology II**

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: **Describe roles and responsibilities of the Emergency Medical Technician (EMT)**

Competency Builders:

- Identify the roles and responsibilities of the EMT
- Describe the importance of emergency care
- Identify legal aspects of emergency care
- Identify contributing agencies in local EMS system
- List six areas of personal attitude and conduct expected of an EMT
- Describe state requirements for EMT certification and recertification
- Explain the EMT's role in the organ donation program
- Describe the signs and symptoms of critical incident stress
- Explain the need for critical incident stress debriefing

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Treat soft tissue injuries

Competency Builders:

Describe the anatomy and physiology of the skin

Identify types, signs, and significance of various wounds

Provide basic wound care

Apply dressings and bandages to wounds

Describe how to care for a patient with an amputation and the care of the amputated part

List etiology of soft tissue injuries and potential complications of each

Describe importance of using aseptic technique in treating soft tissue injuries

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Treat musculo-skeletal injuries

Competency Builders:

- Describe the anatomy and physiology of the musculo-skeletal system
- Identify types, signs, and symptoms of fractures, sprains, and dislocations
- Select appropriate splint for treatment of presenting injury
- Demonstrate techniques for immobilizing all fractures and dislocations
- Identify mechanism of injury

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Treat medical emergencies

Competency Builders:

- List methods in which poisons can enter the body
- Explain how to contact the appropriate poison control center
- Describe the signs, symptoms, and treatments for poison overdose victims
- Describe the signs, symptoms, and treatments for victims of venomous bites and stings
- Describe the signs, symptoms, and treatments for victims of heart and respiratory diseases
- Describe the signs, symptoms, and treatments for victims of cerebro-vascular incidents
- Describe the signs, symptoms, and treatments for diabetic patients
- Describe the signs, symptoms, and treatments for patients with communicable diseases
- Describe the signs, symptoms, and treatments of allergic reactions
- Describe the signs, symptoms, and treatments for patients having seizures
- Describe the signs, symptoms, and treatments for patients suffering from acute abdominal problems
- Describe the signs, symptoms, and treatments for substance abuse patients

BIL: Essential

EDU:	12	AD	AC
	I	P	M,C,S

Competency: Treat burns

Competency Builders:

Describe dangers of burns to patient and rescuer

Estimate the degree and size of a burn

Provide emergency care to the burned victim

Manage complications of burns (e.g., respiratory compromise, infection)

Report degree and size of burns, along with any complications and care given

Manage dressing changes, scar management

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage victims of hazardous materials incidents

Competency Builders:

Describe methods used to identify hazardous material

Describe the threats of hazardous material to victims and the EMT

Describe general principles used to manage a hazardous material victim

Describe methods used to decontaminate or isolate equipment or vehicles used in a hazardous material incident

Identify agencies responsible for handling hazardous material incidents

Describe scene safety

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage special care situations

Competency Builders:

- Provide care for the needs of geriatric, mentally/physically challenged, non-English speaking, and psychologically disturbed patients
- Manage behavioral emergencies including disruptive patients
- Manage sexual assault victims
- Provide care for the terminally ill
- Manage SIDS incidents
- Describe aspects of scene safety

BIL: Essential

EDU:	12	AD	AC
		P	

Competency: Demonstrate extrication

Competency Builders:

Describe common extrication tools, equipment, and safe handling

Demonstrate methods used to gain access to and extricate patient from entrapment, including a motor vehicle

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Describe mass casualty incidents

Competency Builders:

Define a mass casualty incident (MCI)

Describe the principles involved in management of an MCI

Explain the principle of triage

Describe treatment rationale for MCI

BIL: Essential

EDU:	12	AD	AC
		P	

Competency: Demonstrate knowledge of systems operation

Competency Builders:

- Identify regulations and recommendations related to driving an emergency vehicle
- Describe emergency vehicle and equipment maintenance
- Describe the non-medical role of the EMT in situations such as traffic accidents and crime scenes

Unit: Emergency Medical Services

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: **Demonstrate knowledge of the paramedic profession**

Competency Builders:

- Define the roles and responsibilities of the paramedic
- Differentiate among the various levels of training—from EMT to paramedic
- List current state requirements for paramedic certification and recertification
- Define continuing education, certification, licensure, and registration
- Explain the purposes of a national association, national registry, and professional journals
- Describe the benefits of paramedics teaching in their community

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Describe emergency medical services (EMS) systems

Competency Builders:

- Define medical control and physician responsibility
- Explain pre-hospital stabilization of patients
- Differentiate between management of trauma and medical patients
- Describe protocols and their development
- Explain the relationship between prehospital care and total patient care, including the emergency department and hospital specialty departments
- Describe the continuum of patient care and the responsibilities of the paramedic within the transfer of patient responsibility
- Describe the response of the EMS system, including system access, dispatcher responsibilities, patient evaluation, medical command, and patient responsibility
- Identify groups such as ASTM, NCSEMSTC, ACS, AMAJRC, and USDOT and their roles in the promulgation of national standards
- Outline the various paramedic-physician relationships
- Describe retrospective evaluation of patient care including report review, continuing education, skill practice, and skill deterioration
- Describe the EMT-Paramedic's initial responsibilities when arriving on the scene
- Identify circumstances that require the EMT- Paramedic's to report incidents to law enforcement or other appropriate authorities

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Demonstrate EMS communication systems

Competency Builders:

- Describe the phases of communication necessary for an EMS event
- Define essential communication terms and equipment
- Describe the advantages and disadvantages of various EMS communication systems
- Describe factors affecting interference, range, and clarity of base, vehicle, and portable radio communications
- Describe the functions and responsibilities of the FCC
- Describe the functions and responsibilities of the EMS dispatcher
- Describe methods of verbal communication of patient information to hospital and to the physician
- Explain the importance of written medical protocols and the written EMS run report
- Demonstrate proper use of portable and mobile transmitter/receivers in a patient situation
- Explain uses of biotelemetry equipment
- Complete a written EMS report
- Describe medical legal issues concerning patient information

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Demonstrate rescue techniques and extrication

Competency Builders:

Identify possible hazards of a rescue scene

Describe procedures for handling hazards at a rescue scene

Describe the equipment and techniques to use to gain access to, package, extricate, and transport patients trapped within a vehicle or other confinement

Describe the integration of patient care into the process of patient disentanglement and rescue

Identify proper response in the presence of hazardous materials

Name proper authorities to notify in the case of hazardous materials

Manage scene and safe patient access

Explain removal and transport of the patient from the scene

Demonstrate procedures and operation of equipment used to gain access to, package, extricate, and transport patients trapped or confined in a vehicle or other type of entrapment

Demonstrate techniques for lifting and handling patients with and without spine injuries and/or other special injury problems utilizing the special equipment found on a rescue vehicle

Demonstrate techniques for lifting and moving patients utilizing typical patient handling/carrying devices

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Describe major incident response

Competency Builders:

Define mass casualty incident (MCI) and when it should be declared

Describe the preplanning phase and response planning for MCI

Describe MCI communications

Describe the components of special resources

Describe the function of scene command, scene triage, and the transferring command function

Describe scene and staging management and a system for patient identification

Define scene safety

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Demonstrate knowledge of patient assessment and initial management

Competency Builders:

- Describe the primary and secondary survey
- Describe the anatomy, physiology and pathophysiology of the airway and lungs and its anatomical structures
- Describe the use of adjuncts in airway management
- Describe advanced methods of airway management
- Explain the significance of protection of the cervical spine in airway management
- Explain pulmonary ventilation and gas exchange across the alveolar-capillary membrane
- Describe the pathophysiology of open and closed pulmonary injuries
- Describe the techniques for evaluating effectiveness of ventilation
- Describe the anatomy and physiology of the heart and cardiovascular system
- Describe the pathophysiology of cardiac arrest
- Describe the mechanisms of evaluating the effectiveness of perfusion
- Describe hemorrhage control and its benefits and complications
- Assess neurological status
- Explain the pathophysiology of shock
- Define trauma score and its usefulness
- Obtain a relevant patient medical history
- Describe how a patient is packaged and stabilized for transportation to the hospital
- Describe procedures for hospital selection, transportation, and patient monitoring enroute to the hospital
- Perform a rapid assessment
- Set priorities of care based on threat to life
- Perform a secondary survey
- Document general patient findings and treatment

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage airway and ventilation

Competency Builders:

Demonstrate methods of airway management on adult, child, and infant manikins both manually and with adjunctive equipment

Demonstrate methods for assessing continued adequacy of airway management and ventilation when using advanced airway devices

Demonstrate use of portable and fixed suction devices for oropharyngeal and tracheal suctioning

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage shock

Competency Builders:

Describe the causes, pathophysiology signs, symptoms, clinical manifestations, and management of shock

Describe fluids, fluid transport, and fluid and electrolyte imbalances

Describe resuscitation of the shock patient

Describe hemodynamics of the cardiovascular system

Describe differences in IV fluid composition and their implications in fluid administration

Describe baroreceptors and their affect on blood pressure and perfusion

Describe compensated and uncompensated shock

Describe evaluation of patient's perfusion status

Define acid-base balance

Describe indications and contraindications of the pneumatic anti-shock garment

Describe methods of fluid replacement and the advantages and disadvantages of each

Demonstrate the steps in shock resuscitation

Demonstrate use of pneumatic anti-shock garment

Demonstrate proper technique for setting up intravenous fluids for administration

Demonstrate proper technique of peripheral and external jugular venous cannulation on the adult, child, and infant patient

Demonstrate proper techniques for troubleshooting an intravenous infusion

Calculate fluid administration rates for intravenous fluids utilizing a variety of administration sets

Demonstrate aseptic IV techniques

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Demonstrate knowledge of pharmacology

Competency Builders:

- Identify the various origins and forms of drugs
- Differentiate many various names of a drug (e.g., generic, trade, official, chemical)
- Identify agencies responsible for regulating drugs and the rationale for regulation
- Demonstrate use of the Physician's Desk Reference (PDR)
- Identify local and systemic effects of drugs
- List effects of various factors on the action of drugs
- Describe methods of drug absorption
- Define relevant pharmacology terms
- Describe the apothecary and metric systems
- Convert between and within the apothecary and metric systems
- Describe the routes of administration of various types of drugs
- Calculate fractional drug dosages
- Identify the advantages and disadvantages of subcutaneous, intramuscular, intravenous, and transtracheal injections
- Demonstrate the proper procedure for intramuscular, subcutaneous, intravenous piggyback, intravenous bolus, and transtracheal medication administration
- Demonstrate the proper procedure for withdrawing medication from a glass vial and a glass ampule

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Handle trauma emergencies

Competency Builders:

- Describe the general care and transportation of the trauma patient
- Describe the priorities of trauma care and triage with multiple patients
- Describe the anatomy, physiology, pathophysiology, assessment, and management of trauma to all regions of the human body
- Describe methods of hemorrhage control
- Demonstrate methods of hemorrhage control
- Describe neurological examination, assessment, pathophysiology, and management
- Describe rapid on-scene management of the trauma patient
- Describe the components of a complete prehospital history and the significance of each
- Describe various types of splints used for immobilization of fractures and dislocations and their advantages and disadvantages
- Describe the short and long backboard, the various state-of-the-art substitutes available, and their specific uses
- Describe various systems designed for scoring the severity of injuries to the trauma patient
- Describe the use of a trauma score in quantifying patient condition
- Demonstrate advanced methods of airway management and ventilation in the trauma patient
- Demonstrate decompression of a tension pneumothorax
- Demonstrate application of pneumatic anti-shock garment (MAST)
- Demonstrate physical examination of the trauma patient
- Demonstrate a neurological examination as performed on a trauma patient
- Demonstrate immobilization of the cervical spine
- Demonstrate splinting techniques
- Define indications of a tension pneumothorax

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage burn injuries

Competency Builders:

Describe the anatomy, physiology, pathophysiology, and assessment of the integumentary system

Describe the movement of body fluids between plasma, interstitial compartments and intracellular compartments

Describe the assessment and management of the burn system

Describe the pathophysiology and treatment of burn shock

Describe the major causes, classifications, and categories of burns

Describe the method of calculating percentages of body surface area burned and various formulas for calculating fluid resuscitation

Assess an inhalation injury

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Handle respiratory emergencies

Competency Builders:

Describe the anatomy, physiology, pathophysiology, and assessment of the respiratory system

Define appropriate medical terms

Identify the normal partial pressures of oxygen and carbon dioxide in the alveoli, arterial and venous blood, and factors that affect those levels

Describe the normal and COPD respiratory drives

Identify the pharmacology, actions, indications, precautions, dosages, contraindications, and side effects of typical respiratory drugs for the adult and pediatric patient

Demonstrate methods of respiratory drug administration

Describe the signs, symptoms, and pathophysiology of conditions affecting the respiratory system

Demonstrate inspection, auscultation, and palpation of the thorax

Identify normal and abnormal lung sounds

Obtain a history from a patient with respiratory complaints

Assess a patient with respiratory problems

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage cardiovascular emergencies

Competency Builders:

Describe the anatomy, physiology, and pathophysiology relevant to cardiovascular disease and emergencies

Identify the pharmacology, actions, indications, precautions, methods of administration, dosages, contraindications, and side effects of common emergency cardiovascular drugs

Identify complications of intracardiac injections

Describe innervation of the heart, sympathetic, and parasympathetic stimulation, blockade, and effects on the heart rate

Describe myocardial electrical physiology

Describe signs, symptoms, and common chief complaints of patients with cardiac conditions

Describe the historical information, specific observations, and physical findings to be evaluated in the cardiac patient

Identify actions, uses, and side effects of common prescription drugs relative to cardiac problems

Describe the etiology of cardiac arrest in adults and pediatric patients

Describe concepts of ECG monitoring, types and causes of artifacts, and rhythm analysis format

Identify the wave forms, intervals, and normal values relative to an electrocardiogram (ECG)

Describe the 12-lead ECG as compared to continuous monitoring

Describe the etiology, clinical significance, and ECG characteristics of cardiac dysrhythmias

Describe the indications for use of a precordial thump, vagotonic maneuvers, synchronized cardioversion, and defibrillation

List energy recommendations for adult and pediatric patients

Identify wave forms, artifacts, and dysrhythmias on Lead or MCL1 rhythm strips and oscilloscope

Obtain history from patient with cardiac condition

Assess dysrhythmias or cardiac condition

Demonstrate application of ECG electrodes
Obtain a sample Lead II or MCL1 rhythm strip
Use defibrillator paddles for Lead II monitoring
Troubleshoot a poor ECG rhythm
Perform a precordial thump, vagotonic maneuvers, synchronized cardioversion,
defibrillation, and external cardiac pacing
Use a mechanical CPR device
Explain a team approach when managing cardiac arrest

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage endocrine emergencies

Competency Builders:

- Describe the anatomy, physiology, and pathophysiology of the endocrine system
- Describe the assessment and management of endocrine emergencies
- Identify the historical information, observations, and physical findings significant in the patient with endocrine disorders
- Identify common prescription drugs that endocrine patients might take and the implications of each
- Identify the pharmacology, actions, indications, precautions, methods of administration, dosages, contraindications, and side effects of relevant drugs
- Obtain a history from a patient with endocrine problems
- Assess patients with endocrine problems
- Administer relevant drugs

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage neurological emergencies

Competency Builders:

Describe the anatomy, physiology, and pathophysiology of the neurological system

Describe the assessment and management of neurological disorders

Identify the actions, uses, and side effects of common prescription drugs relative to neurological problems

Identify common prescription drugs that a patient with neurological problems might take and the implications of each

Identify the pharmacology, actions, indications, precautions, methods of administration, dosages, contraindications, and side effects of relevant drugs

Explain the Glasgow Coma Scale

Use the Glasgow Coma Scale

Differentiate various types of seizures and their phases

Obtain history from a patient with neurological disorders

Assess patients with neurological disorders

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage digestive, genitourinary, and reproductive emergencies

Competency Builders:

- Describe the anatomy, physiology, and pathophysiology of the digestive, genitourinary, and reproductive systems
- Identify the historical information, observations, and physical findings significant in the patient with digestive, genitourinary, and reproductive disorders
- Describe the assessment and management of digestive, genitourinary, and reproductive system disorders
- Identify common prescription drugs that a patient with digestive, genitourinary, and reproductive problems might take and the implications of each
- Describe the basic principles, types, and complications of dialysis
- Explain the assessment and management of the dialysis patient, including vascular access
- Obtain history from a patient with digestive, genitourinary, and reproductive disorders
- Identify the pharmacology, actions, indications, precautions, methods, of administrations, dosages, contraindications, and side effects of relevant drugs

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Manage anaphylaxis emergencies

Competency Builders:

Describe the anatomy, physiology, pathophysiology, causes, signs and symptoms, assessment, and management of anaphylaxis

Identify the historical information, observations, and physical findings significant in the patient with potential anaphylaxis

Identify the pharmacology, actions, indications, precautions, methods of administration, dosages, contraindications, and side effects for the adult and pediatric patient for epinephrine, diphenhydramine, aminophylline, and dexamethasone

Obtain history from a patient with potential anaphylaxis

Administer epinephrine, diphenhydramine, aminophylline, and dexamethasone to the adult and pediatric patient

BIL: Essential

EDU:	12	AD	AC
		P	C,S,M

Competency: Manage toxicology, alcoholism, and drug abuse emergencies

Competency Builders:

- Describe toxicologic emergencies
- Identify the routes of entry of toxic substances into the body
- Describe the role of Poison Control Centers in the EMS system and in the management of patients with toxicological emergencies
- Define drug abuse terms
- Identify commonly abused drugs and their effects
- Describe the anatomy, physiology, pathophysiology, assessment, and management of patients with toxicological emergencies, animal or insect bites, stings, drug overdose, and alcoholism
- Describe the incidence of alcoholism, drug abuse, and substance abuse in the United States
- Obtain history from a patient with toxicological emergencies, animal or insect bites, stings, drug overdose, and alcoholism
- Apply a constricting band
- Administer relevant drugs

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage infectious diseases

Competency Builders:

Define terms and conditions relative to infectious diseases

Describe the anatomy, physiology, pathophysiology, causes, mode of transmission, incubation period, assessment, and management of typical infectious and communicable diseases and parasites

Identify the historical information, observations, and physical findings significant in the patient with infectious/communicable disease or parasites

Practice universal precautions according to CDC standards

Describe procedures for reporting and follow-up after exposure to a communicable disease according to CDC standards

Obtain history from a patient with infectious/communicable disease or parasites

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Manage radiation injuries

Competency Builders:

Identify common types and sources of ionizing radiation

Identify sources of normal background radiation

Describe the anatomy, physiology, pathophysiology, signs and symptoms, causes, assessment, and management of acute and/or chronic exposure to ionizing radiation

Identify the historical information, observations, and physical findings significant in the patient with acute and/or chronic exposure to ionizing radiation

Describe safety procedures for allied health personnel and patients related to exposure to ionizing radiation

Explain procedures for notifying appropriate health officials of radiological incidents

Obtain history from a patient with acute and/or chronic exposure to ionizing radiation

Manage patient with acute and/or chronic exposure to ionizing radiation

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage geriatric emergencies

Competency Builders:

Identify the physical, social, and psychological differences between youth and elderly

Identify the historical information, observations, and physical findings significant in the geriatric patient with acute and/or chronic medical problems

Identify illness/complaints that require special consideration in the elderly

Describe the anatomy, physiology, pathophysiology, assessment, and management of common geriatric illnesses

Obtain a history from a geriatric patient

Treat geriatric patients

Describe geriatric abuse

Describe the components and objectives of a gerontology program

Demonstrate communication techniques with a special needs patient (e.g., blind, deaf, dementia)

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Manage pediatric emergencies

Competency Builders:

Identify the general goals of managing the pediatric patient

Identify the historical information and its sources in evaluating the pediatric patient

Describe, by age groups, the relevant aspects of normal growth and development, personality development, relationship to parents, history factors, common illnesses, and accidents

Describe Sudden Infant Death Syndrome (SIDS), the current theories for causes, assessment, management, and the immediate needs of the family

Describe the characteristics of a child abuser

Describe the characteristics of an abused child

Describe the assessment and management of potentially abused children, including management of the family of the child

Identify types of child abuse

Describe the anatomy, physiology, pathophysiology, assessment, and management of common pediatric disorders

Identify the pediatric dosage for relevant drugs

Demonstrate techniques for airway maintenance in the pediatric patient

Describe techniques and sites for intravenous infusion in the pediatric patient

Obtain a history from a pediatric patient

Assess a pediatric patient

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Manage the gynecologic patient

Competency Builders:

- Describe the anatomy and physiology of the female reproductive system
- Identify the historical information, observations, and physical findings to be evaluated for the gynecologic patient
- Describe the pathophysiology and management of gynecological disorders
- Describe potential causes, assessment, and management of trauma to the external genitalia
- Describe the assessment and management of a sexual assault victim
- Obtain a history from a patient with a gynecologic problem
- Assess a patient with a gynecologic problem
- Report sexual assault

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M,S

Competency: Manage the obstetric patient

Competency Builders:

- Define obstetrical terminology
- Describe the process of fetal development and circulation
- Identify the historical information, observations, and physical findings to be evaluated for the obstetric patient
- Describe early signs and symptoms of pregnancy
- Describe potential causes, assessment, and management of trauma to the pregnant mother and the fetus
- Describe the effects of pregnancy on pre-existing medical conditions
- Describe the anatomy, physiology, pathophysiology, causes, assessment, and management of obstetrics
- Describe Braxton-Hicks contractions
- Describe the progression of labor
- Describe factors that influence transport decisions for the patient in labor
- Describe a normal cephalic delivery
- Describe the pathophysiology, assessment, and management of delivery complications
- Identify the pharmacology, actions, indications, methods of administration, dosages, contraindications, and side effects of oxytocin
- Obtain a history for an obstetric patient
- Define stages of labor and associated complications
- Assess the obstetric patient
- Treat obstetrical patients, including assisting with childbirth
- Administer oxytocin

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S,M

Competency: Manage the neonate

Competency Builders:

Describe the anatomy, physiology, pathophysiology, assessment, and routine management of the neonate

Describe the mechanisms, effects, and treatment of hypothermia in the neonate

Define the parameters, numerical values utilized, and the procedure for Apgar scoring

Demonstrate stimulation of CPR for the neonate

Identify observations and physical findings to be evaluated in the neonate

Identify problems and equipment requirements for transportation of the neonate

Obtain a history for a neonate

Assess a neonate

Administer oxygen to a neonate

Suction a neonate using suction and bulb syringe

Calculate Apgar score

Obtain an antepartum and postpartum history of the mother

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Manage behavioral emergencies

Competency Builders:

Define behavioral emergency

Identify factors that may alter the emotional status of the ill or injured

Identify common prescription drugs that a patient with behavioral disorders might take and the implications of each

State reasons for and methods of reassuring patient who is experiencing an emotional crisis

Describe verbal communication techniques useful in managing the emotionally disturbed patient

Describe means to insure the safety of the Paramedic

Describe circumstances when bystanders and relatives should be removed from the scene

Identify factors which increase the risk of suicide and behaviors that are indicators of an impending suicide attempt

Describe techniques that facilitate the systematic gathering and reporting of information about the disturbed patient

Describe techniques that are useful in managing the effects of crisis situations on the Paramedic

Describe techniques that are useful in redirecting anxiety in relatives and bystanders

Identify appropriate action of the Paramedic when confronted with an uncontrollable, armed patient

Describe situations in which the EMT-Paramedic may forcibly restrain or transport a patient

Demonstrate techniques for restraining the violent patient

Demonstrate techniques useful in protecting the EMT-Paramedic when attacked by a violent patient

Obtain a history of patients with behavioral emergencies

Assess patients with behavioral emergencies

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Demonstrate paramedic skills

Competency Builders:

- Demonstrate patient assessment/management (e.g., medical and trauma)
- Demonstrate ventilatory management skills/knowledge (e.g., simple adjuncts, supplemental oxygen delivery, endotracheal intubation, chest decompression, transtracheal jet ventilation/cricothyrotomy)
- Demonstrate management of cardiac arrest patient (e.g., therapeutic modalities, megacode, monitor/defibrillator knowledge, pacing)
- Demonstrate hemorrhage control
- Demonstrate splinting procedures
- Demonstrate IV therapy and IO therapy (e.g., set-up, fluid therapy, medication administration)
- Demonstrate spinal immobilization (e.g., seated and lying patients)
- Demonstrate gynecologic skills and knowledge
- Demonstrate other related skills (e.g., radio communications, report writing, documentation)

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Maintain current certifications and continuing education

Competency Builders:

Meet AHA/ARC standards for CPR proficiency

Meet AHA standards for advanced cardiac life-support proficiency

Meet national registry and state requirements for continuing education (e.g., paramedic refresher, additional continuing education)

BIL: Essential

EDU:	12	AD	AC
	I	P	C,S

Competency: Assist with emergency childbirth

Competency Builders:

Describe the anatomy and physiology relevant to childbirth

Assist mother before, during, and after delivery

Describe potential complications during three stages of childbirth

Manage complications of delivery during three stages of childbirth

Care for neonate

Resuscitate newborn if necessary

Provide appropriate care for premature infant

Provide care for multiple births

Document data relevant to delivery and care given

Unit: Oral Anatomy and Pathology I

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Identify dento-osseous structures

Competency Builders:

- Identify functions of dento-osseous structures
- Identify bones and sutures of the skull
- Identify cranial landmarks
- Identify TMJ structure and ligaments

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Identify facial muscles

Competency Builders:

Explain formation of facial expression

Explain function of mastication

Identify origin and insertion of suprahyoid muscles

Explain function of tongue and hyoid structure

Identify muscles of tongue

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Explain neurology of head and neck

Competency Builders:

Define reflex arc

Describe function of cranial nerves

Define trigeminal nerve

Differentiate perception of and reaction to various types of pain

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe vascular system of the head

Competency Builders:

Identify functions of blood

Identify major arteries and branches (e.g., external carotid, internal and external maxillary)

Identify purpose and location of viscera of head and neck

Unit: Oral Anatomy and Pathology II

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe developmental abnormalities

Competency Builders:

Differentiate normal and abnormal jaws

Differentiate normal and abnormal lips

Differentiate normal and abnormal mucosa

Differentiate normal and abnormal tongue

Differentiate normal and abnormal salivary glands

Differentiate normal and abnormal teeth (e.g., size, shape, number, structure, eruption)

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe dental caries

Competency Builders:

Identify etiology of caries

Describe affects of saliva

Identify types and clinical features of caries

Describe histopathology of the caries process

Explain use of radiographs in caries detection

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe pulpal and periapical disease

Competency Builders:

Identify etiology of pulpal disorders

Describe periapical infections and diseases of the supporting bone

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe tissue changes in response to physical or chemical injury in the oral cavity

Competency Builders:

Describe effects of placement of restorations on the pulp

Describe bruxism

Classify fractures of the teeth

Describe ankylosis

Describe traumatic bone cyst

Compare sialolithiasis and mucous retention

Identify consequences associated with wearing removable dental appliances

Describe effects of drugs and heavy metals on structures in oral cavity

Identify iatrogenic factors

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe neoplasms of oral cavity

Competency Builders:

Define benign and malignant

Describe fibroma, papilloma, hemangioma, tori, adenoma, and premalignant lesions (red and white)

Describe squamous cell carcinoma, adenocarcinoma, osteosarcoma, and metastatic neoplasms

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Describe odontogenic cysts and neoplasms

Competency Builders:

Define cysts and neoplasms

Describe dental lamina cysts, lateral periodontal, follicular, periapical, calcifying, and keratocyst

Describe ameloblastoma, ameloblastic fibroma, and odontoma

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe treatment of patients with special needs

Competency Builders:

- Describe treatment of gerodontic patients
- Describe treatment of edentulous patients
- Describe treatment of pediatric patients
- Describe treatment of medically compromised patients

Unit: Chairside Procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Perform patient assessment

Competency Builders:

Correlate medical/dental history with a dental hygiene treatment plan and services to be performed

Identify contraindications to dental treatment in a medical and dental history

Recognize remedial actions or referrals

Correlate extraoral and intraoral examination/findings with a dental hygiene treatment plan and patient services to be performed

Conduct a complete periodontal examination, including probing, radiographic interpretation, mobility assessment, and tissue description

Consult with dentists and physicians to verify dental and medical information

Develop treatment plan to be implemented

Record existing restorations, conditions, and pathologies

Assess patient's nutritional status

Perform soft tissue reassessment

Evaluate the effects of initial dental hygiene therapy

Define oral manifestations and their relations to systemic diseases

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Prepare patient

Competency Builders:

- Secure patient's chart
- Prepare operatory
- Greet patient
- Review patient's health history
- Position patient for examination or treatment
- Drape patient
- Adjust chair and lights
- Position operator and assistant stools

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Demonstrate principles of body mechanics and ergonomics

Competency Builders:

Identify principles of ergonomics

Identify common causes of back injuries

Demonstrate proper operator and patient body mechanics involved in transfer and positioning of patient

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Maintain dental operatory

Competency Builders:

Follow manufacturer's instructions

Prepare disinfectant solutions

Open operatory

Disinfect operatory and sterilize equipment

Dispose of used materials in compliance with OSHA and EPA

Close operatory

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Provide evacuation and retraction in compliance with OSHA, EPA, and ODP

Competency Builders:

Practice infection control procedures

Interact with patient

Operate and control high-volume evacuator and low-volume evacuator

Retract tissue

Operate air-water syringe

Perform equipment maintenance and disinfection

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Identify dental instruments

Competency Builders:

Identify grasp and exchange types of instruments

Describe the operation zone of grasp and exchange instruments

Identify rotary handpieces and cutting instruments

Describe the operation zone of rotary handpieces and cutting instruments

Demonstrate care and maintenance of dental instruments

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Transfer instruments

Competency Builders:

- Follow dentist's directions
- Anticipate procedural steps
- Use transfer zone
- Deliver instruments
- Receive instruments
- Maintain sequentially organized tray

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Explain instrumentation

Competency Builders:

Identify parts, components, and types of instrumentation

Identify sequence of instrumentation

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Use instruments

Competency Builders:

Use grasp

Use fulcrum

Differentiate use of adaption from angulation

Use lateral pressure

Differentiate visibility from accessibility

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Sharpen instruments

Competency Builders:

Use stationary equipment

Use stationary stone

Use supplemental methods

Care for sharpening stone

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with preliminary examination

Competency Builders:

- Practice infection control procedures
- Prepare basic tray setup
- Measure and record vital signs
- Record and update patient health history
- Interact with patient
- Prepare setup for preliminary impression
- Take preliminary impression
- Record oral condition on patient's chart
- Chart patient's teeth
- Assist with oral cancer screening

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with administering anesthetic

Competency Builders:

- Practice infection control procedures
- Read and follow manufacturer's instructions
- Prepare anesthetic tray setup
- Interact with patient
- Apply topical anesthetic
- Assist with administration of local anesthetic
- Monitor patient's respiration rate and behavior
- Rinse patient's mouth
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with application of rubber dam

Competency Builders:

Practice infection control procedures

Prepare tray for rubber dam application and removal

Explain procedure to patient

Assist with installation of rubber dam according to ODPA

Remove rubber dam

Demonstrate application and removal of rubber dam

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with anterior restoration and aesthetic dental procedures

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Read and follow manufacturer's instructions
- Prepare setup for rubber dam application and removal
- Assist during cavity/tooth preparation
- Assist with shade and materials selection
- Prepare setup for cavity liners and/or acid etch and bonding procedures
- Assist with acid etch and bonding procedures
- Assist with placement of materials
- Assist with finishing and polishing of restoration
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with in-office bleaching procedures

Competency Builders:

- Interact with patient
- Record present shade of teeth
- Practice infection control procedures
- Assist with product selection
- Read and follow manufacturer's instructions
- Prepare setup for rubber dam application and removal
- Assist with solution application
- Monitor bleaching process
- Prepare setup and assist with topical fluoride treatment
- Instruct patient in postoperative care
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with home-bleaching procedure

Competency Builders:

Interact with patient

Record present shade of teeth

Practice infection control procedure

Assist with product selection

Read and follow manufacturer's instructions

Prepare setup and assist with impression

Pour and trim model

Fabricate and trim tray

Instruct patient in home use according to dentist's orders

Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with posterior restoration

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Read and follow manufacturer's instructions
- Assist during cavity preparation
- Prepare setup for rubber dam application and removal
- Prepare setup for cavity liners
- Prepare setup for amalgam filling procedure
- Prepare setup for composite filling procedure
- Prepare for cavity filling
- Assist with placement of materials
- Assist with carving amalgam
- Provide postoperative instructions
- Prepare setup for finishing and polishing amalgam restoration
- Prepare setup for finishing and polishing composite restoration
- Assist with finishing and polishing restoration
- Record treatment on patient's chart

Unit: Extraoral and Intraoral Examinations

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Explain examination procedures

Competency Builders:

Identify components of examination

Identify sequence of examination procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Apply techniques of inspection

Competency Builders:

- Use materials and instruments
- Describe observations during inspection
- Use dental charting symbols
- Perform oral cancer screening

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe periodontium

Competency Builders:

Identify gingiva and related structures

Describe significance of color, size, and contour

Describe surface texture and consistency

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Examine teeth

Competency Builders:

Explain enamel hypoplasia

Differentiate among attrition, erosion, and abrasion

Identify carious lesions

Classify carious lesions

Identify fractures of teeth

Classify occlusion

Differentiate between functional occlusion and trauma from occlusion

Chart periodontal records

Unit: Preventive Oral Hygiene Procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe plaque and soft deposits

Competency Builders:

Define plaque and related terminology

Describe the relationship of plaque cycle to dental disease (e.g., dental caries, periodontal infections)

Explain how diet affects plaque and soft deposits

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe dental calculus and stains

Competency Builders:

Explain calculus formation

Differentiate supragingival from subgingival calculus

Identify stains of teeth (e.g., exogenous, endogenous intrinsic, exogenous intrinsic)

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe scaling and root planing

Competency Builders:

Describe exploratory stroke

Describe coincidental curettage

Describe post treatment procedures

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Remove plaque and stains from teeth

Competency Builders:

Identify disclosing agents

Explain effects and indications of disclosing agents

Apply selective polishing

Use porte polisher

Use abrasive for polishing (e.g., prophyjet)

Clean removable denture

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Remove hard deposits

Competency Builders:

Assess amount and location of deposits

Select instrumentation choice (e.g., ultrasonic, handscalers)

Demonstrate removal of hard deposits

Describe patient reassessment

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Describe oral disease control

Competency Builders:

Describe advantages and disadvantages of toothbrushes

Describe toothbrush procedures (e.g., bass method, rolling stroke, modified stillman, charters)

Describe supplemental brushing methods

Identify contraindications for toothbrushing

Explain care of toothbrushes

Explain interdental plaque control

Identify types and uses of dental floss

Explain oral irrigation

Explain chemical plaque removal

Describe dentifrices

Explain use of mouthrinses

Describe additional supplemental aids (e.g., proxabrush)

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Apply fluorides

Competency Builders:

- Explain fluoridation
- Identify fluoride in foods
- Identify dietary fluoride supplements
- Explain purpose and use of topical fluoride
- Follow safety precautions for using fluoride
- Use sodium fluoride
- Use acidulated phosphate-fluoride (APF)
- Use stannous fluoride

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Use desensitizing agents

Competency Builders:

Explain action of desensitizing agents

Demonstrate methods of desensitization

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with pit and fissure sealants

Competency Builders:

Interpret and follow manufacturer's instructions for sealants

Prepare setup for pit and fissure sealant

Interact with patient

Prepare sealant preparation

Prepare sealant placement

Record treatment on patient's chart

Unit: Dental Morphology

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain dental physiology

Competency Builders:

- Describe surfaces and ridges
- Identify tooth/oral landmarks
- Explain division into thirds
- Identify proximal contact areas
- Identify interproximal contact areas and spaces
- Differentiate between embrasures and escapements
- Describe protective contours
- Describe cervical curvatures

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain arrangement of teeth and occlusion

Competency Builders:

Explain dental arch formation

Describe compensating curves of the dental arches

Describe contact relations of the teeth

Describe occlusal contact and intercuspид relations

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Describe deciduous teeth

Competency Builders:

Differentiate incisors and canines

Identify molars

Explain occlusion

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Describe permanent teeth

Competency Builders:

Describe anterior arrangement (e.g., central and lateral incisors, canines)

Describe posterior arrangement (e.g., first and second premolars; first, second, and third molars)

Unit: Dental Radiography

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Identify characteristics of radiation

Competency Builders:

Define terms used in radiography

Explain where x-rays are in the electromagnetic spectrum

Identify characteristics of x-radiation (e.g., no mass or charge)

Compare different methods of measuring x-radiation

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Explain how x-rays are produced

Competency Builders:

Identify the different parts of the x-ray tube

Describe the process for production of radiation

Differentiate among the different types of radiation produced

Describe radiographic density—contrast and detail

Explain the Inverse Square Law and its effect on x-ray production

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Describe effects of radiation on the human body

Competency Builders:

Explain somatic and genetic effects of x-rays

Identify tissues most and least sensitive to radiation

Differentiate among exposure variables and their effects, both acute and chronic

Describe methods for reducing patient exposure

Explain methods of operator protection

Identify common methods of personnel monitoring

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Identify structures through the use of radiographs

Competency Builders:

Differentiate between radiopaque and radiolucent structures

Differentiate among different tooth structures

Identify the bone and surrounding structures in the oral cavity

Identify the different restorative materials used in the mouth

Identify different abnormalities that may develop in the oral cavity

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Apply knowledge of the process for developing radiographs

Competency Builders:

- Identify features of a darkroom and necessary equipment
- Identify components and chemicals in dental film
- Describe how film should be stored
- Identify steps for proper film processing
- Describe cleanup procedures
- List common darkroom errors and methods to prevent them
- Identify errors on radiographs
- Operate automatic film processors
- Duplicate radiographs

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Maintain unexposed film

Competency Builders:

Check expiration date

Store film

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Identify anatomic landmarks

Competency Builders:

Locate teeth on radiograph

Locate supporting structures on radiograph

Locate canals on radiograph

Locate foramina on radiograph

Locate sinuses on radiograph

Differentiate normal and abnormal structures

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Describe errors in dental radiographic technique

Competency Builders:

- Identify types of possible errors
- Explain foreshortening
- Explain elongation
- Explain cone cutting
- Explain improper film placement
- Explain distortion
- Explain creased film
- Explain film fog
- Explain overexposed and underexposed film
- Explain chemical processing errors
- Describe characteristics of diagnostically acceptable quality
- Explain how errors can be corrected
- Demonstrate error analysis

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Expose films

Competency Builders:

Follow manufacturer's instructions for film and equipment placement

Adjust voltage, amperage, and timer on x-ray equipment

Apply infection control procedures

Perform "bisecting-the-angle" technique

Follow radiation safety precautions for patient and operator

Follow exposure guidelines

Position patient

Select film size and speed

Position film

Perform paralleling technique

Expose extraoral radiographs (e.g., panoramic)

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Process radiographs manually

Competency Builders:

- Follow manufacturer's instructions for equipment
- Mix solutions for developing and fixing radiographs
- Follow darkroom procedures
- Handle film properly
- Load film in developing tank
- Read thermometer
- Interpret time and temperature chart
- Follow safety precautions to prevent eye injury and minor burns in compliance with OSHA and EPA
- Clean and disinfect equipment
- Dispose of mixed solutions in accordance with EPA regulations

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Process radiographs automatically

Competency Builders:

Follow manufacturer's instructions for x-ray equipment and solutions in compliance with OSHA and EPA

Follow darkroom procedures

Handle film properly

Operate automatic processor

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Mount radiographs

Competency Builders:

- Handle film properly
- Place radiographs in mount
- Label mount
- Store mounted radiographs

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Apply bisecting technique to expose a full-mouth survey

Competency Builders:

- Explain basic principles of bisecting technique
- Identify common errors in technique
- Demonstrate patient positioning
- Demonstrate uses of film holders

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Apply paralleling technique to expose a full-mouth survey

Competency Builders:

Describe principles and methods of paralleling technique

Describe film placement for all exposures

Prepare instruments for use in oral cavity

Demonstrate use of film holders

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Complete full-mouth survey on child DXTTR or patient

Competency Builders:

Select proper number and size films

Select appropriate instrument

Demonstrate proper exposure technique

Demonstrate proper developing technique

Properly evaluate full-mouth survey

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Complete full-mouth survey on adult DXTTR or patient

Competency Builders:

- Select proper number and size films
- Select appropriate instrument
- Demonstrate proper exposure technique
- Demonstrate proper developing technique
- Properly evaluate full-mouth survey

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Complete full-mouth survey on edentulous patient

Competency Builders:

Select proper number and size films

Select appropriate instrument

Demonstrate proper exposure technique

Demonstrate proper developing technique

Properly evaluate full-mouth survey

Unit: Preventive Dental Assisting Procedures

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Assist with prophylaxis

Competency Builders:

- Prepare prophylaxis and examination tray setup
- Prepare saliva ejector or high vacuum evacuator (HVE)
- Prepare patient
- Interact with patient
- Remove debris with saliva ejector or HVE
- Assist with scaling
- Pass and receive instruments
- Air-dry oral cavity
- Assist with polishing
- Pass and receive dental floss
- Use correct techniques to aspirate and retract
- Rinse patient's mouth
- Instruct patient in home-care procedures
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Administer topical fluoride

Competency Builders:

Set-up for fluoride treatment

Interact with patient

Air-dry oral cavity

Measure liquids and gels

Apply fluoride

Time treatment

Instruct patient in post-fluoride treatment

Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	P	R	

Competency: Instruct patient about oral hygiene and nutrition

Competency Builders:

- Follow manufacturer's instructions on dental products
- Prepare tooth brushing and flossing setup
- Interact with patient
- Demonstrate use of disclosing agents
- Demonstrate brushing
- Demonstrate flossing
- Demonstrate oral hygiene aids
- Take plaque index
- Examine plaque under microscope
- Take a Snyder Test
- Incubate Snyder Test
- Instruct patient on care of fixed and removal appliances
- Instruct patient in recording diet
- Analyze dietary report
- Instruct patient in proper nutrition
- Record treatment on patient's chart

Unit: Dental Specialties

BIL: Recommended

EDU:	12	AD	AC
	I		

Competency: Assist with oral surgery

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Prepare patient for oral surgery
- Prepare for oral surgery
- Assist with anesthesia
- Assist with oral surgery
- Prepare setup for implant
- Assist with implant
- Prepare setup for dry socket treatment
- Assist with dry socket treatment
- Prepare setup for incision and drainage
- Assist with incision and drainage
- Prepare setup for surgical irrigation
- Prepare setup for biopsy
- Assist with biopsy
- Prepare biopsy for lab
- Give postoperative instructions
- Prepare setup for suture removal
- Assist with suture removal
- Record treatment on patient's chart

BIL: Recommended

EDU:	12	AD	AC
	I		

Competency: Assist with pediatric dentistry

Competency Builders:

- Interact with patient
- Prepare pedodontics setup
- Practice infection control procedures
- Assist with pedodontic examination
- Assist with topical fluoride application
- Assist with stainless steel crowns
- Assist with space maintainers
- Prepare pulpectomy setup
- Assist with pulpectomy procedures
- Assist with pit and fissure sealant placements
- Record treatment on patient's chart
- Assist with restorative treatment
- Assist with patient management (e.g., restraints)

BIL: Recommended

EDU:	12	AD	AC
	I		

Competency: Assist with endodontics

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Prepare endodontics setup
- Assist with rubber dam placement
- Assist with endodontic examination
- Assist with opening the pulp cavity, removal of diseased pulp, and root canal enlargement
- Measure reamers and files
- Expose radiographs
- Process radiographs
- Assist with sterilizing and drying canal
- Assist with placement of medicaments
- Assist with root canal filling
- Assist with endodontic surgery
- Record treatment on patient's chart

BIL: Recommended

EDU:	12	AD	AC
	I		

Competency: Assist with fixed prosthodontics

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Prepare patient
- Prepare prosthodontics tray setup
- Assist with administering local anesthetic
- Take preliminary impression
- Remove temporary crowns
- Assist with gingival retraction
- Assist with final impression for crown and bridge
- Assist with crown and bridge try-in and shade selection
- Assist with bite registration
- Assist with fabrication of temporary restorations
- Prepare setup for crown and bridge cementation
- Assist with placing temporary restorations
- Instruct patient in care and maintenance of temporary restorations
- Assist with crown and bridge cementation
- Prepare setup for equilibration
- Assist with equilibration
- Instruct patient in postoperative care
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Assist with periodontics

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Prepare periodontics setup
- Assist with periodontic examination
- Assist with scaling and sub gingival curettage
- Assist with gingivectomy
- Set-up for periodontal dressing
- Assist with placement of periodontal dressing
- Place periodontal dressing
- Assist with removal of periodontal dressing
- Remove periodontal dressing
- Instruct patient in home-care procedures
- Record treatment on patient's chart

BIL: Recommended

EDU:	12	AD	AC
	I		

Competency: Assist with removable prosthodontics

Competency Builders:

- Interact with patient
- Practice infection control procedures
- Prepare patient
- Prepare prosthodontics tray setup
- Take preliminary impression
- Assist with final impression
- Assist with removable prosthodontics
- Assist with bite registration and tooth selection
- Assist with denture/partial try-in
- Assist with denture/partial insertion
- Assist with denture/partial adjustment
- Assist with partial denture repair
- Record treatment on patient's chart

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Assist with public health dentistry

Competency Builders:

Demonstrate knowledge of assessment, planning, implementation, and evaluation of community health interventions

Analyze research methodologies for community health interventions

Interpret research findings in scientific literature

Apply research findings to dental hygiene care delivery

Apply statistical analysis to health trends and community interventions

Assist dentist in public health clinics, hospitals, schools and nursing homes

Present information on oral health care to school or community group

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Perform direct patient services

Competency Builders:

Differentiate between deposits and other causes of tooth surface roughness

Check for calculus removal

Scale teeth, removing accretions with hand instruments

Root plane to remove altered cementum

Manipulate mechanical instruments for deposit removal (e.g., ultrasonics, prophy-jet)

Perform soft tissue curettage

Apply desensitizing agents

Clean removable appliances

Direct patient in home therapies to maintain and restore soft tissue health

Provide dietary counseling for health maintenance and specific healing needs

Recommend patient use of caries prevention agents

Unit: Dental Materials I

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Demonstrate knowledge of dental laboratory materials

Competency Builders:

- Identify gypsum materials
- Pour models and dies
- Describe dental waxes
- Indicate uses of dental waxes
- Wax-up for metal fabrication
- Wax-up for resin processing
- Describe impression materials for laboratory use
- Explain model duplication media
- Identify denture base materials by color and characteristics
- Discern similarities and differences of denture base materials
- Explain the various metals used in dentistry, the metals used in fixed and removable prostheses
- Describe the characteristics and properties of porcelains and ceramic materials
- List the various separating agents
- List composition of various separating agents
- Identify fluxes and antfluxes
- Describe the indications and differences of various laboratory alcohols
- List the amount of pickling agents
- Define wetting agents
- Describe the uses of wax solvents
- Describe the composition of wax solvents
- Identify the variety of abrasives used in finishing appliances
- List the polishing agents for resins
- List the polishing agents for metals
- List the polishing agents for ceramics
- List the properties of laboratory gases
- List the uses of laboratory gases

List the safe handling of laboratory gases
Describe miscellaneous laboratory materials and agents

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Explain dental laboratory material properties

Competency Builders:

Differentiate force and strain

Define compressive, tensile, and shearing

Differentiate between elastic limit and modulus of elasticity

Differentiate between malleability and ductility

Differentiate between flow and creep

Describe the Knoop hardness test

Describe the Brinell hardness test

Explain linear coefficient of thermal expansion

Differentiate between adhesion and viscosity

Unit: Dental Materials II

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Demonstrate use of impression materials

Competency Builders:

- Describe the different impression materials
- Identify types of material set
- Explain mixing ratios of impression materials
- Describe the mixing, working and setting times
- Identify factors affecting setting time
- Describe proper handling of different impression materials

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Use dental cements, liners, and varnishes

Competency Builders:

Explain the purpose of dental cements, liners, and varnishes

Identify types of dental cements, liners, and varnishes (e.g., zinc phosphate, zinc oxide eugenol, EBA cement, polycarboxylate, glass ionomer)

Differentiate between light cure and self cure liners

Describe the armamentarium for dental cements, liners, and varnishes

Explain material ratios of gypsum products

Describe the mixing and setting time

Identify factors effecting setting time

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Use restorative materials

Competency Builders:

- Explain the purpose of using restorative materials
- Identify components of restorative materials use
- Describe the armamentarium for restorative materials use
- Explain material ratios of mercury and alloys
- Explain the purpose of using ketac silver
- Describe the armamentarium for ketac silver use
- Demonstrate the application of ketac silver
- Explain the purpose of using composites
- Identify types of composites
- Describe the advantages and disadvantages of composite use
- Describe the armamentarium for composite use
- Explain material ratios of composite
- Describe the mixing and setting time
- Describe application methods for composites
- Explain acid etching
- Identify factors affecting setting time
- Identify factors affecting mixing time
- Define polymerization
- Define monomers
- Define polymer
- Define curing
- Define catalyst
- Explain the properties of shade selection and its armamentarium
- Explain the bonding types and procedure
- Explain the different bonding products

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Demonstrate dental laboratory procedures

Competency Builders:

- Pour models and dies
- Explain the purpose of using gypsum products
- Identify types of gypsum products
- Describe the armamentarium for gypsum product use
- Explain material ratios of gypsum products
- Describe the mixing and setting time
- Define exothermic reaction, calcining, gauging water, and refractory
- Explain model trimming
- Identify factors affecting setting time
- Fabricate impression trays
- Assemble materials and equipment
- Adapt spacer
- Adapt acrylic
- Trim finished tray
- Fabricate gypsum models
- Select gypsum material
- Rinse and dry impressions
- Apply mathematical ratios
- Pour edentulous models
- Trim models
- Articulate models

Unit: Dental Hygiene

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Explain functions and pathologies of dental-related anatomy

Competency Builders:

Identify structures and functions of head and neck anatomy including bones, muscles, sinuses, salivary glands, nerves, and vessels

Identify embryonic development of the head, oral cavity, and teeth

Identify teeth and their landmarks

Describe histological components of the head, and oral cavity

Describe elements of the teeth and supporting structures

Describe oral pathological conditions

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Maintain dental instruments and equipment

Competency Builders:

Identify various types, functions, and operations of dental operator and laboratory equipment

Identify types and functions of various dental instruments

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Assist with dental office emergency care

Competency Builders:

Describe dental office emergencies, their prevention and treatment
Assist with medical emergency care, including CPR

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Anesthetic application

Competency Builders:

Identify drug requirements, agencies, and regulations

Record a drug prescription

Identify drug actions, side effects, indications, and contraindications

Identify common drugs used in dentistry

Apply a topical anesthetic agent

Identify properties of anesthetics

Prepare syringes for the administration of local anesthetics

Monitor nitrous oxide-oxygen conscious sedation

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Perform preventive dentistry techniques

Competency Builders:

Identify applicable methods of preventive dentistry and instruct patients on their implementation

Prepare setup for oral prophylaxis and anticariogenic treatments

Identify elements of nutrition, basic food groups, and acceptable diets

Identify deficiencies that manifest symptoms in the oral cavity and describe relevant therapies

Formulate diets to address specific dental needs

Unit: Health Information Processing

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Assemble medical records

Competency Builders:

Activate a patient's health record

Receive registration information

Update or add information

Assign number to patient or verify number already issued

Activate previous records and sign out to appropriate individual or unit

Assure security of master patient index

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Perform quantitative analysis on patient's health record

Competency Builders:

Collect health records of discharged or deceased patient

Enter date of discharge or death in appropriate place

Arrange reports in correct order (e.g., laboratory reports placed in record sequence and chronological order)

Review record for correct patient identification on all pages

Review record for presence of all necessary reports

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain health record locator system

Competency Builders:

- Complete requisition information
- Perform record search through locator system
- Retrieve and sign out record
- Print computer record
- Copy record from storage system
- Update health record locator system
- Forward record to appropriate location

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Abstract information from a health record

Competency Builders:

Use computerized abstracting system

Perform abstract according to Uniform Hospital Discharge Data Set (UHDDS) guidelines

Verify information on abstract with health record

Document on health record that abstract has been completed

Forward abstracted information to appropriate area

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Prepare health record for court of deposition

Competency Builders:

Verify authenticity of court order

Verify authenticity of subpoena

Verify treatment of patient

Analyze record for completeness

Notify appropriate person if the case may involve the facility, an employee of the facility, or a member of the medical staff

Remove correspondence or other reports not part of the health record

Follow department procedures for preparation of record

Photocopy record

Obtain notarization for certification statement as needed

Notify appropriate persons as to the date of appearance

Record date of appearance in subpoena log

File legal document in a secure setting outside of original health record

Retain legal document on file in accordance with department policies/procedures

Unit: Health Information Maintenance

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Trace lost record

Competency Builders:

Receive request for record

Examine sign-out log

Use computer locator system

Check area where record is supposed to be located

Search other departmental areas (e.g., transcription area, correspondence area, coding/abstracting area, microfilm area)

Forward found record to requester

Recompile medical records from available ancillary departments, physicians offices, and/or any other resources

Follow procedures for lost record

BIL: Essential

EDU:	12	AD	AC
		P	C,S

Competency: Maintain a tumor registry

Competency Builders:

Obtain health record of tumor patient

Record information into accession registry

Identify severity indicators

Initiate patient information into tumor registry master patient index

Update patient information into tumor registry master patient index

Complete tumor registry abstract form from Department of Health

Record information of a deceased patient into registry

Follow guidelines set forth by American College of Surgeons

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Code diagnoses and procedures using the current modification of the International Classification of Diseases (ICD-9-CM)

Competency Builders:

Review entire record for diagnosis to be coded (e.g., physician progress notes, operational reports, labs, medical sheets, pathology reports, etc. for optimal reimbursement)

Select diagnosis according to specific guidelines (e.g., HCFA)

Use coding manual/encoder

Identify diagnosis code number(s)

Select procedures according to specific guidelines (e.g., HCFA)

Check code numbers for accuracy

Check code number for sequencing

Define concurrent coding

Contact physician for further clarification when needed

BIL: Essential

EDU:	12	AD	AC
		P	S

Competency: Assign Major Diagnostic Classification (MDC) and Diagnostic Related Groups (DRGs)

Competency Builders:

- Receive ICD-9-CM coded record
- Verify proper sequencing of diagnoses
- Verify proper sequencing of procedures
- Notify physician regarding questions of possible sequencing changes
- Verify proper code numbers for diagnoses
- Verify proper code numbers for procedures
- Assign severity of illness categories
- Validate DRG assignment
- Validate output on UB 92 or other billing forms
- Use computerized grouper to assign DRG's
- Assign appropriate Major Diagnostic Classification
- Assign appropriate Diagnostic Related Group within the MDC
- Define DRGs

BIL: Essential

EDU:	12	AD	AC
	I	P	S

Competency: Code diagnoses and procedures using Current Procedural Terminology (CPT-4) methodology

Competency Builders:

- Review outpatient record for diagnoses to be coded
- Review outpatient record for procedures to be coded
- Select the most appropriate diagnostic test(s) or procedure(s) which correlates to the CPT-4 coding guidelines
- Contact physician for further clarification if record documentation doesn't permit exact coding
- Check CPT-4 coding number for accuracy
- Check CPT-4 coding number for sequencing
- Define ASC (Ambulatory Surgery Center) payment groups
- Define APGs (Ambulatory Patient Groups)
- Define RBRVS (Reimbursement Based Relative Value System)

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain computer files

Competency Builders:

Store material

Create backup files

Store documents on disks

Define optical disc storage

Update computer files

Unit: Health Information Clerical Functions

BIL: Essential

EDU:	12	AD	AC
	P	R	C

Competency: Compose electronic correspondence

Competency Builders:

Identify need to compose correspondence

Use specified format

Compose draft of correspondence

Revise draft of correspondence

Edit for grammar, spelling, punctuation, and sentence structure

Prepare final copy of correspondence

Proofread final copy

Submit correspondence to appropriate person

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Transcribe recorded dictation

Competency Builders:

Receive dictated material

Select materials to be transcribed in order of priority

Listen to recorded dictation

Transcribe materials in specified format according to departmental policies and procedures

Edit transcribed materials for accuracy and completeness

Record required transcription data on form (e.g., reference initials, date dictated, date transcribed)

Record completion of dictated material in control log

Forward completed dictated material to appropriate area

Receive dictated material

Select materials to be transcribed in order of priority

BIL: Essential

EDU:	12	AD	AC
	I	P	M,C

Competency: Input data on computer

Competency Builders:

Input data into spreadsheet format

Input data into graphs and charts

Input data into source documents

Input data into database files

Input data with optical character recognition equipment

Input data with voice activated equipment

Input data using peripheral equipment available (e.g., mouse, touch screen, graphics tablet, light pen, digital scanner, camera)

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Distribute information

Competency Builders:

Receive data via modem

Transmit data via electronic billboard or e-mail

Monitor electronic bulletin board or e-mail

Transmit data via modem

Transmit data via facsimile machines

Transmit data via local area networks

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Maintain filing system

Competency Builders:

Define filing system(s)

Maintain manual filing system(s)

Maintain cross-referencing filing system

Maintain filing system for magnetic media

Maintain filing system for storing backup copies of disks

Maintain filing system for securing classified or confidential materials

BIL: Essential

EDU:	12	AD	AC
	I	R	C

Competency: Prepare health record for storage

Competency Builders:

Verify all forms in record for correct name and hospital number

Remove and destroy forms not preserved by the hospital

Check for proper sequence of record

Follow procedures for specific record storage method

BIL: Essential

EDU:	12	AD	AC
	I	R	C,M

Competency: Maintain office equipment and supplies

Competency Builders:

Perform basic office equipment maintenance

Monitor hardware and software for working condition

Assist in determining needs for software

Maintain office supplies

Update materials as mandated

Unit: Health Information Quality Control

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Perform qualitative analysis on patient's health record

Competency Builders:

- Review record for appropriate signatures and authentication for all entries
- Review record for necessary dictation (e.g., discharge summary, history and physical exam, operative report)
- Review record for completeness of information (e.g., inappropriate use of abbreviations)
- Review record for accuracy of information
- Record all omissions
- Reroute incomplete records to responsible practitioners
- Reanalyze record after appropriate individuals have had the opportunity to correct identified omissions

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Prepare report for physician's incomplete records

Competency Builders:

Review physician's incomplete record file

Identify record(s) not completed within the specified time period according to medical staff by-laws, JCAHO standards, and/or applicable department of health regulations

Retrieve health records to verify delinquency

Determine if physician has received notification of incomplete record(s)

Prepare report of delinquent incomplete record(s)

Forward report to appropriate individual(s) or department(s)

Submit report to hospital administration

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Evaluate procedure for release of patient information

Competency Builders:

Review procedure for release of patient information

Determine time period to be covered by evaluation

Retrieve records listed in correspondence log for specified time period

Review patient(s) authorization for release of information for appropriate signature and date

Identify any invalid patient authorization

Submit findings to appropriate individual(s)

Verify treatment of patient

Follow regulatory procedures for handling release of information of drug/alcohol records

Follow procedure for handing release of information of adoption records

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Evaluate procedure for health record analysis

Competency Builders:

Review procedure for health record analysis

Determine time period to be covered by evaluation

Retrieve record(s) to be reviewed

Identify any record with omissions

Submit findings to appropriate individual(s)

Implement new and/or revised policies/procedures subsequent to the review and analysis of the quality control study findings

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Evaluate procedures for abstracting and coding

Competency Builders:

Review procedures for abstracting and coding

Determine time period to be covered by evaluation

Retrieve records to be reviewed

Reabstract record and check with original information for differences

Make necessary corrections

Recode record and check original codes for differences

Generate change notices, where applicable, for the business/finance office if corrections have an impact on payer reimbursement to the facility

Submit findings to appropriate individual(s)

Implement new and/or revised policies/procedures subsequent to the review and analysis of the quality control study findings

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Evaluate procedure for transcribing medical records

Competency Builders:

Review procedures for transcribing medical records

Determine time period to be covered by evaluation

Retrieve records to be reviewed for specified time period

Screen each report for grammar and spelling

Identify any reports with omissions or errors

Submit findings to appropriate individual(s)

Implement new and/or revised policies/procedures subsequent to the review and analysis of the quality control study findings

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Perform quality review

Competency Builders:

- Select and/or procure topic for quality review
- Select and/or procure criteria and standards for quality review
- Determine time period to be included in review
- Determine number of record(s) to be selected for review
- Retrieve and sign out records to be reviewed
- Review each record for compliance with criteria and standards
- Record findings of review
- Forward report to appropriate individual(s) or committee(s)
- Implement new and/or revised procedures/policies subsequent to the review and analysis of the quality review findings

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Conduct utilization review process

Competency Builders:

- Determine which health record(s) are to be reviewed on a daily basis
- Determine the standards and/or criteria to be used per each review to be conducted
- Retrieve record(s) for review
- Document findings of the review
- Submit reports to appropriate authority to determine the need for continued hospitalization
- Re-establish a time frame for when the next utilization review will take place if continued hospitalization is authorized
- Contact director for handling of termination notice(s) if continuation of hospital stay is denied
- Retain data abstracted for each review per department policies and procedures

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Prepare materials for accreditation

Competency Builders:

Receive notice of accreditation review

Review standards and criteria for accreditation

Complete accreditation review survey form

Obtain all materials required by the accreditation review team

Correct deficiencies prior to schedule date of accreditation review visit

Notify staff of accreditation review visit

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Validate data for patient-related information system needs

Competency Builders:

Verify data was obtained from valid sources

Verify timelines of data sources

Verify completeness of data sources

Verify accuracy of data sources

Verify appropriateness of data sources

Compare data with standards (e.g., length of stay norms, Medicare mortality rate, department productivity standards)

Check data for internal consistency

Perform edit check to monitor data accuracy

Compare data with other data sources/references to determine consistency

BIL: Essential

EDU:	12	AD	AC
		P	C

Competency: Analyze data for patient-related information system needs

Competency Builders:

Prepare data for analysis (e.g., compile data, develop graphs, tables)

Perform departmental case-mix analysis

Analyze data in relation to regulatory and accreditation standards

Analyze case-mix payment rates to determine reimbursement optimization (e.g., DRG)

Analyze employee performance data in relation to departmental/institutional performance standards (e.g., quality of patient care)

Unit: Health Information Report Preparation

BIL: Essential

EDU:	12	AD	AC
		P	C,M

Competency: Prepare census reports

Competency Builders:

Prepare daily inpatient census report

Prepare admissions statistical report

Prepare discharge statistical report

Prepare length of stay statistical report

Prepare monthly statistical report

Analyze statistical reports

Define various statistical terms (e.g., ALOS, LOS, death rates)

BIL: Essential

EDU:	12	AD	AC
		P	C,M,S

Competency: Gather data to support patient-related information system needs

Competency Builders:

Conduct surveys of patients, users of data, health care providers, administrator and/or researchers

Conduct interviews with users of data, health care providers, administrators, researchers and/or others

Tabulate requests for patient related data

Abstract information from patient records for research studies

Abstract information from patient records for reimbursement

Compare claims submitted to third party payers with reimbursement received

Abstract information from patient records for disease, procedures, physician, or other indices

Abstract information from patient records for compilation of registries

Abstract information from patient records for compilation of vital statistics

Abstract information from patient related records to develop user (e.g., physician profiles)

Abstract information from patient records for quality assurance studies

Abstract information from patient records for utilization, review

Abstract information from patient records for risk management

Unit: Health Information Supervision

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Design departmental services and operational systems

Competency Builders:

Develop departmental goals and objectives

Develop departmental plans

Develop departmental policies

Revise departmental policies

Develop departmental procedures

Revise departmental procedures

Develop job descriptions

Revise job descriptions

Develop transition plans for implementation of new or revised systems

Develop goals and objectives for computerized information systems

Develop inservice education programs for departmental staff

Design forms for collection of patient related data (e.g., medical record forms, quality assurance, utilization review forms)

BIL: Essential

EDU:	12	AD	AC
	I	P	C,M

Competency: Identify resources to support departmental operations

Competency Builders:

- Determine personnel needs
- Determine equipment needs
- Determine supply needs
- Determine space requirement needs

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Execute plan(s) for implementing departmental services

Competency Builders:

- Select personnel
- Orient personnel
- Inform organization staff of plan(s)
- Implement new/revised policies and procedures
- Monitor adherence to system specifications
- Implement new/revised policies and procedures
- Monitor adherence to system specifications
- Implement new/revised information, and/or service and/or operational systems
- Monitor adherence to budget (e.g., determine budget variance)
- Coordinate on site review activities (e.g., PRO reviews)
- Monitor changes in federal, state and local laws, regulations, and joint commission standards
- Monitor policy/procedure compliance
- Counsel employees
- Terminate employees
- Design employee staffing schedules
- Maintain equipment (e.g., schedule preventive maintenance, arranged for repairs)
- Coordinate educational programs for departmental and/or non departmental staff
- Conduct meetings
- Participate in departmental and/or institutional committees
- Confer with providers and users of departmental services

BIL: Essential

EDU:	12	AD	AC
	I	P	C

Competency: Evaluate effectiveness of departmental services

Competency Builders:

Determine variation(s) from established objectives and/or standards of performance

Report progress toward achieving long and short range goals

Monitor accreditation survey results (e.g., JCAHO, Medicare)

Recommend improvement(s) in systems

Evaluate employee performance

Monitor departmental productivity

Monitor work flow

Unit: Medical Assisting X-ray Operator

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Identify characteristics of x-radiation

Competency Builders:

Define terms used in radiography

Explain where x-rays are in the electromagnetic spectrum

Identify characteristics of x-radiation (e.g., no mass or charge)

Differentiate between ionizing and non-ionizing radiations

Compare different methods of measuring x-radiation

Compare different types of radiation (e.g., alpha, beta, natural, man-made)

BIL: Recommended

EDU:	12	AD	AC
		I	M,S

Competency: Explain how x-rays are produced

Competency Builders:

Identify the different parts of the x-ray tube

Describe the process for production of x-radiation

Differentiate among the different types of radiation produced

Describe radiographic density (e.g., contrast and detail)

Explain the Inverse Square Law and its effect on x-ray production

Apply radiographic formulas and their effect on x-ray production

Explain Ma, KvP and time and their relationship on x-ray production

Describe factors that affect radiographic density, contrast, detail, and distortion

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Describe effects of radiation on the human body

Competency Builders:

- Explain somatic and genetic effects of x-rays
- Identify tissues most and least sensitive to radiation
- Differentiate among exposure variables and their effects, both acute and chronic
- Describe methods for reducing patient exposure
- Explain methods of operator protection
- Identify common methods of personnel monitoring
- Describe LD 50/30 (e.g., Lethal Dose)
- Explain Dose Equivalent Limit

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Practice radiation safety procedures in accordance with OSHA and EPA

Competency Builders:

- Adhere to safe radiation practices
- Demonstrate radiation safety precautions for patients
- Demonstrate radiation safety precautions for operators
- Comply with equipment safety laws
- Elicit patient history which might indicate a risk or a reaction (e.g., allergies, tape sensitivities, injection of an iodinated contrast medium)
- Wear radiation monitoring device(s) while on duty
- Document personal radiation exposure
- Question female patients about possible pregnancy and alert physician
- Remove all unnecessary persons from area prior to taking radiograph
- Perform safety checks of radiographic equipment and accessories (e.g., lead aprons and gloves, collimator accuracy)
- Place protective shield(s) over patient's radio-sensitive organs prior to exposure
- Minimize personal and patient radiation exposure through principles of time, distance, and shielding
- Demonstrate appropriate infection control technique(s) when radiographing a patient in isolation
- Report radiologic accidents and/or spills immediately to proper authorities
- Identify need for medical attention and administer emergency care to patient in critical situation (e.g., bleeding; epileptic seizure; contrast media reactions; respiratory/cardiac distress)
- Practice universal precautions

BIL: Recommended

EDU:	12	AD	AC
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Competency: Demonstrate knowledge of equipment

Competency Builders:

Demonstrate the function of a diagnostic x-ray unit

Demonstrate the function of a fluoroscopic unit

Demonstrate the function of a portable x-ray unit

Demonstrate the function of a portable c-arm unit

BIL: Recommended

EDU:	12	AD	AC
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Competency: Demonstrate general knowledge of diagnostic radiology procedures

Competency Builders:

- Describe common radiological procedures
- Describe common fluoroscopic procedures
- Describe computer tomography as an imaging modality
- Describe common mammography procedures
- Describe common computerized tomography procedures
- Describe common magnetic resonance procedures
- Describe common sonography procedures
- Describe common special procedures
- Describe common nuclear medicine procedures
- Describe common quality assurance procedures
- Describe common radiation therapy procedures
- Differentiate between diagnostic and therapeutic radiology
- Describe common surgical procedures, to include c-arm equipment
- Describe common contrast exams

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Ready equipment and materials for radiographic procedures

Competency Builders:

Differentiate among catheters, dilators, guidewires, and needles by size, type, and/or function

Warm up x-ray tube to achieve proper operating conditions

Measure appropriate patient parts for requested examination

Identify appropriate exposure factors

Modify exposure factors for circumstances (e.g., body habitus, voluntary and involuntary motion, pathological conditions)

Restrict beam exposure to area of interest

Set appropriate exposure factors to achieve optimum image quality

Perform radiographic examination in a sequence which avoids or minimizes undesirable effects

Check radiographs to verify they contain proper identification and are of diagnostic quality

Identify corrective measure if radiograph is not of diagnostic quality

Clean patient and/or equipment to remove anything that might interfere with radiograph quality

Assist physician in fluoroscopy by preparing the fluoroscopic unit and accessories for use and by adjusting controls as requested

Utilize sterile technique

Respond to malfunctioning medical equipment

Clean facilities and equipment

Disinfect or sterilize facilities and equipment

Dispose of contaminated items in preparation for next examination

Report malfunctions in radiographic unit

Differentiate among contrast media

Prepare contrast media accurately when appropriate

Obtain immobilization devices when necessary

Obtain adequate cassettes and accessories

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Perform radiographic equipment check procedures

Competency Builders:

Clean facilities and equipment

Disinfect or sterilize facilities and equipment

Dispose of contaminated items in preparation for next examination

Report malfunctions in radiographic unit

Demonstrate knowledge of quality control and quality assurance procedures

Collect data for ongoing quality assurance monitoring

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Provide accurate radiographic record identification and retrieval

Competency Builders:

- Record required information following performance examination
- Retrieve radiographic patient records (e.g., radiographs or reports)
- Identify patient using information on request form
- Confirm patient's identity by checking wristband and/or by questioning patient
- Imprint proper patient identification and markers onto film
- Verify correctness of patient identification and markers on film
- Combine radiographic requisition with radiographs for interpretation and filing
- Check radiographic requisition to verify accuracy of information

BIL: Recommended

EDU:	12	AD	AC
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Competency: Ready patient for radiographic procedures

Competency Builders:

Elicit patient history which might indicate a risk or a reaction (e.g., allergies, tape sensitivities; injection of iodinated contrast media)

Identify need for medical attention and administer emergency care to patient in critical situation (e.g., bleeding; epileptic seizure, contrast media reactions; respiratory/cardiac stress)

Assist patient in moving, transferring and ambulating

Explain procedure to patient to relieve anxiety and gain patient's cooperation during procedures

Give patient appropriate breathing instructions prior to making exposure

Assist physician in observing vital signs

Use body landmarks and standard radiographic positions to expose the desired anatomical part(s)

Assist physician with radiographic procedure if requested

Monitor medical equipment attached to patient while in radiology department (e.g., IVs, oxygen)

BIL: Recommended

EDU:	12	AD	AC
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Competency: Perform radiographic procedures

Competency Builders:

Follow manufacturer's instructions for film and equipment placement

Apply universal precautions

Adjust radiographic factors on x-ray equipment

Employ infection control procedures

Align patient, radiographic/fluoroscopic unit, and image receptor to produce images of requested anatomical structures/systems

Use immobilization devices as needed

Use body landmarks and standard radiographic positions to expose the desired anatomical part(s)

Initiate rotor prior to making exposure

Give patient appropriate breathing instructions prior to making exposure

Check radiographs to assure optimum diagnostic image quality to include density, contrast, detail, distortion, and positioning

Identify corrective measure if radiograph is not of diagnostic quality

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Expose radiographic film

Competency Builders:

Follow manufacturer's instructions for film and equipment placement

Adjust radiographic factors on x-ray equipment

Apply infection control procedures

Position patient, radiographic/fluoroscopic unit, and image receptor to produce images of requested anatomical structures/systems

Use immobilization devices as needed

BIL: Recommended

EDU:	12	AD	AC
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Competency: Process exposed radiographic film

Competency Builders:

Follow manufacturer's instructions for x-ray processors and solutions

Mix solutions for developing and fixing radiographic film

Follow darkroom procedures

Unload cassettes

Handle film properly

Read thermometer

Interpret time and temperature chart

Load film into processor

Follow safety precautions to prevent eye injury and minor burns

Dispose of mixed solutions in accordance with EPA regulations

Reload cassettes

Clean equipment

Monitor performance of automatic processor using sensitometry

Report malfunctions in automatic processor

BIL: Recommended

EDU:	12	AD	AC
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Competency: Store radiographs and unexposed film

Competency Builders:

Handle film(s) properly

Hang radiographs on viewboxes in proper orientation

File radiographs

Check expiration date

Store exposed and unexposed film properly

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Maintain supply inventory

Competency Builders:

Identify supplies to be kept in stock

Identify appropriate stock levels

Organize supplies

Re-order supplies

Maintain a clean working environment

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Demonstrate principles of proper body mechanics and ergonomics

Competency Builders:

Identify principles of ergonomics

Identify common causes of back injuries

Demonstrate proper body mechanics used in lifting, moving, transferring, ambulating, and positioning patient

Assist patients with adaptive devices and/or attached medical equipment during movement

Unit: Medical Assisting Respiratory Care

BIL: Recommended

EDU:	12	AD	AC
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Competency: Identify respiratory care uses

Competency Builders:

- List areas in which respiratory therapy is involved with patient services
- Describe the rationale for lung expansion therapy
- List categories of diagnostic and patient monitoring procedures
- List procedures provided by respiratory therapy
- List conditions/diseases of patients who receive respiratory therapy treatment
- List indications for oxygen therapy
- List indications for aerosol and humidity administration
- List indications for the use of chest percussion/chest physiotherapy
- List indications for naso-tracheal, endotracheal, tracheal suctioning
- List goals of pulmonary rehabilitation and patient education
- Differentiate between educational programs of various respiratory care practitioners

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Prepare non-life support respiratory therapy equipment for patient use

Competency Builders:

- Explain purpose and application of non-life support equipment
- Identify components and ancillary equipment of non-life support equipment
- Identify oxygen administration devices
- Identify aerosol generators, croup tents, and vaporizer
- Identify humidifiers
- Identify gas delivery, metering, and analyzing devices
- Identify vacuum system components
- Identify patient breathing circuits
- Identify manometers and gauges
- Verify proper assembly of non-life support equipment
- Disassemble non-life support equipment

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Perform rehabilitation

Competency Builders:

Instruct pursed lip breathing

Instruct diaphragmatic breathing

Instruct cough control

Instruct diet

Instruct exercise conditioning

Instruct activities of daily living

Instruct bronchial hygiene techniques (e.g., Aerochamber, Inhalers)

Instruct smoking cessation

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Manage pharmacological agents

Competency Builders:

- Administer and evaluate steroids
- Administer and evaluate bronchodilators
- Administer and evaluate antiviral
- Administer and evaluate mucolytics
- Administer and evaluate antibiotics
- Administer and evaluate bronchoconstrictors
- Administer and evaluate nicotine therapy
- Administer and evaluate artificial surfactant
- Administer and evaluate antipneumocystis
- Administer and evaluate topical anesthetics
- Administer and evaluate expectorants
- Administer and evaluate vasoconstrictors
- Administer and evaluate mast cell stabilizer

BIL: Recommended

EDU:	12	AD	AC
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Competency: Perform assessment

Competency Builders:

- Assess level of consciousness
- Evaluate level of activity
- Assess WOB (e.g., work of breathing)
- Evaluate cough
- Obtain smoking history
- Assess occupational exposure
- Obtain family history
- Measure chest excursion
- Assess level of dyspnea
- Assess color
- Assess clubbing of fingers
- Assess use of accessory muscles
- Assess position (e.g., tripodding)
- Assess breathing patterns (e.g., Cheynes Stokes)
- Assess breath sounds (e.g., wheeze, rhonchi, rales)
- Interpret lab values
- Evaluate chest radiograph
- Obtain and evaluate sputum cultures
- Obtain and evaluate EKG

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Prepare diagnostic equipment for patient use

Competency Builders:

- Explain purpose and application of diagnostic equipment
- Identify diagnostic equipment
- Identify the components and ancillary equipment of diagnostic equipment
- Assemble portable spirometers and electronic devices used to record flow, compliance, resistance, rate, and volume for patient use
- Disassemble portable spirometers, and electronic devices used to record flow, compliance, resistance, rate, and volume for cleaning
- Identify volume and capacity
- Identify major pulmonary tests
- Identify equipment use for pulmonary function testing
- Calibrate testing equipment
- Solicit patient cooperation
- Use equipment to test pulmonary function
- Calibrate testing equipment
- Solicit patient cooperation
- Evaluate test validity and reliability
- Perform a 12-lead EKG
- Identify parts of Swan Ganz catheter
- Identify arterial blood catheter
- Identify techniques used for hemodynamic monitoring
- Perform calculations using data collected from catheters
- Demonstrate ABGs/co-oximetry equipment
- Demonstrate pulse oximetry equipment
- Demonstrate transcutaneous O₂ and CO₂ equipment
- Demonstrate end tidal CO₂ equipment

BIL: Recommended

EDU:	12	AD	AC
		I	S

Competency: Demonstrate proper procedures for changing flowmeters, regulators, gauges, and compressed gas cylinders

Competency Builders:

- List indications for O2 therapy
- Identify and utilize O2 administration devices
- Identify and utilize gas delivery and analyzing device, metering
- Identify and utilize the potential dangers, safety measures and procedures associated with the use, transportation and storage of medical gases
- List methods by which medical gas cylinders are identified
- Differentiate Pin Index Safety System, Diameter Index Safety System and Compressed Gas Association (CGA) Safety System
- Read cylinder pressure remaining in medical compressed gas cylinder and calculate duration
- Identify tools necessary to remove the regulator from a compressed gas cylinder
- List possible hazards involved in changing the regulator on a compressed gas cylinder
- Explain procedure for changing flowmeters, regulators, gauges, and compressed gas cylinders
- Verify proper operation of flowmeters, regulators, gauges, and compressed gas cylinders
- Define bulk gas system
- Define and identify the components of a manifold system
- Define and identify the components of a piping delivery system
- Identify items to be monitored in a bulk manifold compressed gas system
- Explain LOX systems safety and hazards

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Disinfect or sterilize respiratory therapy equipment

Competency Builders:

- Define particulates, bacteria, viruses, fungi, rickettsiae, and spores
- Describe infectious hazards regarding respiratory therapy equipment
- Differentiate between disposable and reusable equipment
- Package components and ancillary equipment for sterilization
- Identify methods for sterilizing and disinfecting reusable equipment
- Outline proper cleaning, disinfecting, and sterilizing methods
- Demonstrate safe practice in cold liquid disinfection and sterilization
- Demonstrate safe practice in gas sterilization
- Explain how spore strip is used in guarantee sterilization of equipment
- Explain why proper dating of sterilized equipment is necessary
- Explain why proper documentation of disinfection and sterilization procedures is necessary to protect hospital patients
- Identify circumstances which would warrant replacement of liquid disinfectant/sterilization agents

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Test respiratory therapy equipment for proper operation and patient readiness

Competency Builders:

Verify that equipment components are assembled properly with all necessary accessories

Check safety check of all components

Check equipment components for cleanliness and/or appropriate disinfection or sterilization and packaging

Verify all equipment functions as required

Document faulty or defective equipment

Troubleshoot equipment for proper function

Change equipment as needed

Follow manufacturer's instructions for safe operation of the equipment

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Perform pulmonary function tests

Competency Builders:

Identify volume and capacity

Identify major pulmonary tests

Identify equipment use for pulmonary function testing

Calibrate testing equipment

Solicit patient cooperation

Use equipment to test pulmonary function

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Prepare or demonstrate special procedures

Competency Builders:

- Assist with bronchoscopy
- Assist with thoracentesis
- Perform pulmonary and cardiac stress testing
- Assist cardioversion
- Perform defibrillation
- Assist transtracheal aspiration
- Manage transtracheal catheters
- Perform sleep apnea studies
- Manage apnea monitors
- Manage chest tubes
- Manage chest drainage systems

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Demonstrate therapeutic modalities

Competency Builders:

- Demonstrate small volume aerosol and list indications
- Demonstrate large volume aerosol and list indications
- Demonstrate ultrasonic nebulizer and list indications
- Demonstrate chest percussion and list indications
- Demonstrate lung expansion and list indications
- Demonstrate noninvasive ventilation and list indications
- Demonstrate dose inhalers and spacers and list indications

BIL: Recommended

EDU:	12	AD	AC
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Competency: Demonstrate proper procedure for dispensing respiratory therapy medications

Competency Builders:

Identify patient

Verify accuracy and completeness of medication order

Explain purpose of respiratory medications to patient

Explain indications, actions, contraindications, side effects and hazards of respiratory medications

Demonstrate proper assembly of aerosol delivery device

Calculate dosages of respiratory therapy medications

Document patient/client response to medication

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Demonstrate proper procedure for hyperinflation

Competency Builders:

Identify patient

Determine if patient is a candidate for hyperinflation therapy according to clinical practice guidelines

Determine proper hyperinflation technique for the patient

Identify contraindications and hazards of hyperinflation therapy

Demonstrate proper hyperinflation techniques (IPPB and SMI)

Monitor patient and document therapy given appropriately

Unit: Medical Assisting Physical Therapy

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Define patient needs

Competency Builders:

- Obtain data through patient/responsible party interview
- Gather information from medical record
- Observe patient
- Identify activities of daily living, work, and leisure
- Identify architectural barriers to patient mobility
- Identify contraindications for treatment
- Adjust treatment activities in accordance with patient tolerance
- Demonstrate proper methods of positioning and draping patient
- Provide for patient privacy
- Consult with physical therapist
- Observe, document, and report patient progress

BIL: Recommended

EDU:	12	AD	AC
		I	

Competency: Develop therapeutic interventions

Competency Builders:

Gather data from assessments

Prioritize patient problems

Identify realistic goals

Identify length of time to achieve goals

Identify therapeutic procedures that have potential for achieving goals

Identify the influence of biological, psychological, cognitive, social, and cultural factors on compliance and achievement of goals

Contribute to the development of the treatment plan

Explain plan of treatment and goals to patient responsible party

Consult with physical therapist (e.g., treatment termination)

Review prescribed orders

Refer to other community resources as needed

Participate in discharge planning

Identify medications and potential side effects

BIL: Essential

EDU:	12	AD	AC
	I	P	

Competency: Perform therapeutic measures

Competency Builders:

- Collaborate with the physical therapist
- Prepare treatment area
- Prepare equipment and modalities
- Prepare patient for treatment
- Explain indications, contraindications and possible side effects of treatment
- Assist patient with relaxation exercises
- Assist patient with strengthening exercises
- Assist patient with range of motion exercises
- Assist patient with endurance exercises
- Assist patient with balance exercises
- Assist patient with gross motor coordination
- Assist patient with gait training
- Assist patient with neurological techniques (e.g., NOT, PNF)
- Perform manual therapy techniques
- Instruct patient in functional activities (e.g., mobility, transfers)
- Assist patient with work-hardening activities
- Assist with paraffin treatment
- Assist with hydrotherapy
- Assist with fluidotherapy
- Assist with diathermy
- Assist with contrast bath
- Apply hot packs
- Apply cold therapy (e.g., cryotherapy)
- Perform ultrasound techniques
- Apply therapeutic electrical stimulation (e.g., TENS, MENS, NMES)
- Apply ultraviolet treatment
- Apply mechanical traction
- Apply intermittent venous compression
- Assist with prosthetic training
- Assist with use of orthotics

Measure for custom pressure gradient garments
Assist with use of pressure garments
Apply bandages
Apply dressings
Perform wound debridement
Perform therapeutic massage
Perform tilt table treatment
Assist in set-up and removal of electromyogram (EMG) biofeedback equipment
Monitor patient use of therapeutic equipment
Instruct patient in use of body mechanics
Monitor medical equipment attached to patient during treatment (e.g., oxygen, IVs, catheters, drainage tubes)



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