



Loma Linda University School of Medicine Competencies

Curriculum Committee approved 17May2019

MEDICAL KNOWLEDGE - Students must demonstrate the ability to effectively source and validate medical information, possess an adequate foundation of scientific knowledge, and apply this knowledge and information to the care of patients using clinical reasoning and problem solving skills in a whole person care approach.

Subdomain Subcompetency Statement	Preclinical Milestones		Clinical Milestones		
	Year 1	Year 2	Year 3	Year 4	
MK 1. Fundamental Medical Knowledge Comprehend the established and evolving basic and clinical biomedical sciences, including epidemiological and social/behavioral sciences. EPA: 1, 2, 4, 5, 7, 8, 10, 11, 12, 13 ILO: critical thinking, information literacy, quantitative reasoning	<i>MK 1-a</i> Comprehend the development, structure, and function of the human body at molecular, microscopic, macroscopic and behavioral levels.	<i>MK 1-b</i> Comprehend the disease processes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) and how the disease processes affect the structure and function of the human body at molecular, microscopic, macroscopic and behavioral levels.	<i>MK 1-d</i> Demonstrate an investigatory and analytic approach to clinical situations.	<i>MK1-f</i> Apply established and emerging principles of clinical sciences to diagnostic and therapeutic decision making, clinical problem solving and other aspects of evidence-based health care.	
		<i>MK 1-c</i> Comprehend the pharmacologic and non-pharmacologic approaches to disease management and symptom relief.	<i>MK 1-e</i> Select the appropriate, evidence-based, therapeutic interventions for managing the illnesses encountered on each of the required clerkships.		
MK 2. Health Promotion and Disease Prevention Promote health and prevent disease. EPA: 3, 5, 13		<i>MK 2-a</i> Comprehend the principles of health promotion and disease prevention for individuals and populations.	<i>MK 2-b</i> Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention and health promotion for patients.		
			<i>MK 2-c</i> Evaluate the health, demographic and socioeconomic characteristics of a medically underserved population.		
			<i>MK 2-d</i> Know when and how to report incidents of domestic violence including child, elder and spousal abuse.		
MK 3. Ethics, Spirituality, Culture of Patients Employ ethical principles and knowledge of religious beliefs and spirituality and cultural beliefs of patients and their families to enhance patient care. EPA: 1	<i>MK 3-a</i> Comprehend how psychosocial factors, patient belief systems, religion and spirituality influence the physician-patient interaction.		<i>MK 3-b</i> Apply theories and principles that govern ethical decision-making and human values in patient care.		
			<i>MK 3-c</i> Comprehend the major ethical dilemmas in medicine.		
			<i>MK 3-d</i> Recognize differences in belief systems, values, cultural practices, languages, religions, and health practices that impact the medical care of culturally diverse medically underserved.		
MK 4. Sourcing and Evaluation of Medical Information Use information technology	<i>MK 4-a</i> Comprehend the basic scientific and ethical principles of clinical and translational research.				
	<i>MK 4-b</i> Locate, filter, evaluate and utilize biomedical science information for self-directed, problem-based learning.				<i>MK 4-c</i> Apply established and emerging biomedical scientific principles fundamental to health care for patients and populations.
					<i>MK 4-d</i> Critically appraise biomedical and clinical science information.

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to optimize delivery of patient care EPA: 5, 7 ILO: critical thinking, information literacy, quantitative reasoning				
MK 5. Problem Solving and Clinical Reasoning Skills Demonstrate problem solving and clinical reasoning skills. EPA: 1, 2, 3, 7, 10, 11, 12 ILO: critical thinking, information literacy, quantitative reasoning <i>Definition of Problem-solving:</i> <i>"Use scientific concepts and the ability to think critically to analyze concepts from different perspectives to solve problems"</i> <i>(Levesque, Aime A. Life Sciences Edu; Vol. 10, 406-417, Winter 2011)</i> <i>Definition of Clinical Reasoning:</i> <i>(synonyms: critical thinking, decision-making, diagnostic reasoning and judgment)</i> <i>"Complex and multidimensional components of knowledge and skills used to solve patient problems to achieve effective care"</i> <i>(Norman, Geoffrey. Med Edu 2005;39:418-427)</i>	<i>MK 5-a Use medical knowledge for basic problem solving, clinical reasoning, direct application of the scientific method, accurate observation of biomedical phenomena and critical analysis of data.</i>			
	<i>MK 5-b Describe the fundamental steps in the clinical reasoning process.</i>			
			<i>MK 5-c Utilize biomedical and clinical information for solving problems and making decisions in the care of individual patients.</i>	
			<i>MK 5-d Identify and interpret the diagnostic information that is needed to accurately prevent, identify, and monitor illnesses.</i>	<i>MK 5-f Apply medical knowledge and clinical reasoning to effectively evaluate and manage patients subjected to the effects of a critical event.</i>
			<i>MK 5-e Prioritize differential diagnoses following a clinical encounter.</i>	<i>MK 5-g Use medical knowledge and clinical reasoning skills to evaluate diagnose and manage high fidelity, simulated patients encountered during the intensive care and emergency medicine clerkships.</i>
			<i>MK 5-h Use medical knowledge and clinical reasoning skills to effectively evaluate and manage hospitalized patients during a sub-internship rotation.</i>	

PATIENT CARE - Students must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health in the context of whole person care.

Subdomain Subcompetency Statement	Preclinical Milestones		Clinical Milestones	
	Year 1	Year 2	Year 3	Year 4
PC 1. History Taking Obtain and synthesize relevant and accurate information about the patient. EPA: 1, 10	<i>PC 1-a</i> Obtain and organize the essential medical history from a patient in a standard format.		<i>PC 1-d</i> Obtain a focused interval history.	
	<i>PC 1-b</i> Identify the format and components of a standard medical history.	<i>PC 1-c</i> Apply clinical reasoning to focus the history and gather information relevant to the patient's chief complaint.	<i>PC 1-e</i> Identify and use alternate sources of information to obtain history when needed.	
			<i>PC 1-f</i> Apply clinical reasoning to synthesize the history and identify and resolve important missing information.	
			<i>PC 1-g</i> Obtain complete history in an organized and efficient fashion.	<i>PC 1-h</i> Obtain focused pertinent history in urgent and emergent settings.
			<i>PC 1-i</i> Gather complete and focused histories in an organized fashion, appropriate to the clinical situation and specific population.	
PC 2. Physical Examination Perform appropriate, complete, and accurate physical examination. EPA: 1, 10	<i>PC 2-a</i> Recognize and describe normal and abnormal physical examination findings.		<i>PC 2-e</i> Perform an accurate and efficient focused physical exam in a time efficient manner.	
	<i>PC 2-b</i> Perform the basic elements of a physical exam on an adult patient.	<i>PC 2-c</i> Perform a full physical examination on an adult patient in a logical sequence.	<i>PC 2-f</i> Focus or expand the physical examination based upon the clinical presentation and differential diagnosis.	
		<i>PC 2-d</i> Apply clinical reasoning to perform a properly sequenced focused physical examination relative to the chief complaint and history.	<i>PC 2-g</i> Recognize, describe and document abnormal and unexpected physical examination findings.	<i>PC 2-h</i> Obtain a focused pertinent examination in urgent and emergent settings.
PC 3. Oral Case Presentation Provide an oral presentation of a clinical encounter appropriate for the clinical case, context, and audience. EPA: 2, 6, 8 ILO: oral communication	<i>PC 3-a</i> Describe the components of an oral case presentation and communicate information using a structured format.		<i>PC 3-b</i> Include an assessment and plan in each case presentation that contains a prioritized differential diagnosis and reflects one's own clinical reasoning (ending year three).	<i>PC 3-c</i> Synthesize and present relevant clinical information with a prioritized differential diagnosis and plan appropriate to the setting and audience efficiently and accurately. (EPA 2)
				<i>PC 3-d</i> Give or receive a patient handover to transition care effectively.
PC 4. Medical Documentation Document a clinical encounter in the patient record. EPA: 2, 4, 5 ILO: written communication	<i>PC 4-a</i> Identify the appropriate format components for documenting a complete screening history and physical examination.	<i>PC 4-b</i> Use the appropriate format and components for a focused patient encounter.	<i>PC 4-c</i> Document patient encounters accurately, including an assessment and plan.	<i>PC 4-e</i> Document encounters including reporting of information and development of a prioritized assessment and plan efficiently and accurately.
			<i>PC 4-d</i> Include in notes a differential diagnosis and problem list with an assessment and plan that reflects one's own clinical reasoning. (EPA 2)	

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PC 5. Procedures and Skills Perform skills and procedures required for patient care. EPA: 5, 9, 10, 12	<i>PC 5-a</i> Practice the basic principles of universal precautions in all settings.			
			<i>PC 5-b</i> Follow sterile technique.	
			<i>PC 5-c</i> Demonstrate the ability to perform the skills outlined in the <i>School's Red Book</i> .	
			<i>PC 5-d</i> Observe, assist, or perform procedures and skills as appropriate for each clerkship.	<i>PC 5-e</i> Explain components of informed consent (sub-I). (<i>EPA11</i>)
PC 6. Patient Management Provide patient care that is compassionate, appropriate, and effective. EPA: 3, 4, 10, 11 ILO: critical thinking	<i>PC 6-a</i> Recognize and use appropriate supervision when needed for patient safety.			
	<i>PC 6-c</i> Understand the components of a management plan.	<i>PC 6-b</i> Incorporate the components of a management plan in a patient encounter.		
			<i>PC 6-d</i> With appropriate supervision, manage patients with acute and chronic illness in inpatient and ambulatory environments.	
			<i>PC 6-e</i> Comprehend the utility, cost effectiveness and limitations of diagnostic tests based on disease prevalence.	
			<i>PC 6-f</i> Recommend and interpret common diagnostic and screening tests. (<i>EPA 3</i>)	
			<i>PC 6-g</i> Use information technology to support patient care decisions and patient education. (<i>EPA 7</i>)	
			<i>PC 6-h</i> Integrate clinical and translational research in patient care management. (<i>EPA 7</i>)	
			<i>PC 6-i</i> Recognize the impact of health care systems on individual patient care.	<i>PC 6-j</i> Manage multiple complex patients simultaneously at the level of a beginning intern.
			<i>PC 6-k</i> Recognize life-threatening emergencies and know appropriate initial interventions. (<i>EPA 10</i>)	
			<i>PC 6-l</i> Conduct discharge planning with individualized disease management and/or prevention plans, including behavioral change.	
<i>PC 6-m</i> Assess and begin initial appropriate management in response to a cross-coverage call.				

PROFESSIONALISM - Students must demonstrate professional behaviors, attitudes and beliefs that allow patients, colleagues, members of the healthcare team and society to approach each physician encounter with an expectation of trustworthiness.

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	Year 1	Year 2	Year 3	Year 4
PROF 1. Personal Attributes Show ownership for one's choices, attitudes and behaviors. EPA: 1, 4, 5, 6, 8, 9, 10, 11 ILO: oral and written communication (Ethical)	<i>PROF 1-a</i> Demonstrate honest, and ethical behavior with integrity in required professional activities.			
	<i>PROF 1-b</i> Present self in an appropriate manner (e.g., dress, hygiene, language, behavior) maintaining the image and demeanor of a Loma Linda physician.			
	<i>PROF 1-c</i> Demonstrate respect for teachers and the educational process through adequate preparation, active participation, punctuality and timely completion requirements.			
	<i>PROF 1-d</i> Communicate accurately and truthfully.			
	<i>PROF 1-e</i> Embrace feedback regarding cognitive and non-cognitive achievement and seek to improve behaviors related to the feedback.			
			<i>PROF 1-f</i> Be responsive to patient needs that supersede self-interest.	
			<i>PROF 1-g</i> Honestly acknowledge errors including in clinical situations. (e.g. M&M)	
			<i>PROF 1-h</i> Adhere to basic bio-ethical principles and human values in caring for patients and in relating to patient's families and others involved in patient care.	
PROF 2. Relationship Attributes Demonstrate compassion, integrity and respect for others, including sensitivity and responsiveness to a diverse patient population. EPA: 1, 4, 5, 6, 8, 9, 10, 11 (Relational)	<i>PROF 2-a</i> Demonstrate compassion and empathy to others.			
	<i>PROF 2-b</i> Treat patients with dignity, civility and respect regardless of their race, culture, gender, ethnicity, age, socioeconomic status, disability, or sexual orientation.			
	<i>PROF 2-c</i> Respectfully address differences of opinion with others while continuing a professional relationship with the individual with whom the student disagrees.			
	<i>PROF 2-d</i> Maintain appropriate relationships and boundaries with others.			
	<i>PROF 2-e</i> Maintain patient, research subject, and student confidentiality, where applicable.			
			<i>PROF -2-f</i> Manage conflict and respect patients' autonomy when their values differ from one's own.	
			<i>PROF 2-g</i> Advocate for individual patient needs.	
PROF 3. Societal Responsibilities Fulfill obligation to patients, colleagues, and society. EPA: 1, 4, 5, 6, 8, 9, 13 (Accountability)	<i>PROF 3-a</i> Recognize unprofessional behaviors and misconduct in colleagues and seek advice to carry out a sensitive and ethically appropriate response.			
	<i>PROF 3-b</i> Communicate constructive feedback to colleagues (e.g., peer-peer evaluations of teamwork).			
	<i>PROF 3-c</i> Participate in a service learning project.			
	<i>PROF 3-d</i> Actively participate in small groups or other educational opportunities (e.g., preparedness, collaboration, punctual, initiative).			
	<i>PROF 3-e</i> Comply with institutional requirements and regulatory and professional standards.			
	<i>PROF 3-f</i> Recognize health disparities that arise from multiple sources including socioeconomic, cultural, structural (systems), and implicit biases.			
			<i>PROF 3-g</i> Intentionally seek opportunities to be helpful to the clinical team, including maintaining prompt and appropriate accessibility.	

WHOLE PERSON CARE - Through the study and application of whole person care, students will develop an understanding of wholeness/wellness that is applied to their relationships with patients, colleagues, and themselves.

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	Year 1	Year 2	Year 3	Year 4
WP 1. Whole Person Care of Patients Apply whole person care model to the care of patients. EPA: 1, 9, 11	<i>WP 1-a</i> Explain how to integrate the LLU model of whole person care and the LLU spiritual history with the history and physical of patients.		<i>WP 1-c</i> Use the LLU model of whole person care and the LLU spiritual history in patient care.	
	<i>WP 1-b</i> Perform a spiritual history as part of a complete medical history.			
WP 2. Personal Wholeness of Self/Colleagues Apply Whole Person Care/Wellness to care of colleagues and help support a healthy medical community. Implement wholeness strategies for personal development. EPA: 9, 13	<i>WP2-a</i> Recognize when colleagues/fellow student's wellness might be at risk and utilize appropriate ways to communicate concern.			
	<i>WP 2-b</i> Recognize and appropriately address biases in approaches to health care delivery (e.g., gender, cultural).			
	<i>WP 2-c</i> Recognize factors that contribute to medical student wellness and indicators of wellness being at risk.		<i>WP 2-d</i> Recognize personal barriers to wellness and utilize resources and strategies to overcome those barriers.	

SYSTEMS-BASED PRACTICE- Students must demonstrate an awareness of and responsiveness to the larger context and system of health care (including health policy, social policy, and advocacy), as well as the ability to call effectively on other resources, including interprofessional teams in the system, to provide optimal health care.

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	Year 1	Year 2	Year 3	Year 4
SBP 1. Health Care Delivery Systems Demonstrate knowledge of health care delivery systems and their potential effects on the health of patients and communities. EPA: 3, 13			<i>SBP 1-b</i> Integrate oneself within the systems infrastructure to provide quality care to patients as part of health care team.	
			<i>SBP 1-c</i> Incorporate knowledge about systems to develop a discharge plan for patients.	
			<i>SBP 1-d</i> Demonstrate awareness of responsibility to promote health at the community and societal level.	<i>SBP 1-e</i> Incorporate knowledge about systems to develop a discharge plan for patients.

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SBP 2. System Resources Apply system-level approaches to improve quality of health care. EPA: 4, 11, 13 (also see IC 5)	<i>SBP 2-a</i> Understand how system resources may impact the health of patient populations.			
			<i>SBP 2-b</i> Know that health care delivery systems have the potential to cause patient harm. Understand that safety events are caused both by individual errors and system failures.	
			<i>SBP 2-c</i> Understand medical errors in the care of patients and strategies to correct, communicate, and prevent them.	
			<i>SBP 2-d</i> Understand how system resources may be utilized for patient advocacy.	
		<i>SBP 2-e</i> Engage in systems-level approaches to assess and improve quality of patient care including patient satisfaction, cost-effectiveness and clinical outcomes.	<i>SBP 2-f</i> Understand how health and social policy impact patient care.	
SBP 3. Interprofessional Education Collaborate effectively to improve health outcomes. EPA: 9, 13 ILO: oral communication, written communication		<i>SBP 3-a</i> Demonstrate steps necessary for interprofessional collaboration.	<i>SBP 3-b</i> Collaborate effectively with health care professionals, including those from other disciplines, to provide patient-focused care.	

INTERPERSONAL & COMMUNICATION SKILLS - Students must be able to demonstrate culturally sensitive interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates. Students will recognize the presence of implicit bias.

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	Year 1	Year 2	Year 3	Year 4
ICS 1. Relationship-Building Skills Demonstrate adaptability in relationships with colleagues, patients, and their families. EPA: 1, 9, 11			<i>CS 1-b</i> Establish rapport with patients and families and address sensitive issues, in a compassionate and nonjudgmental manner.	
			<i>ICS 1-c</i> Establish collaborative and constructive relationships with patient's families, and colleagues.	

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	Year 1	Year 2	Year 3	Year 4
<i>ILO: oral communication, written communication</i>				
ICS 2. Effective Listening Skills Actively engage in the skill of listening in educational and patient care settings EPA: 1, 9 <i>ILO: oral communication, written communication</i>	<i>ICS 2-a</i> Demonstrate effective listening skills including: 1) the culturally appropriate use of eye contact and nonverbal facilitators; 2) the identification and appropriate response to emotional cues; 3) the use of summarization and checking for accuracy of content; 4) the recognition and attempted resolution of potential barriers to effective listening, such as use of electronic medical record devices			
			<i>ICS 2-b</i> Demonstrate effective verbal and non-verbal communication skills to elicit patients' perspectives of illness and agenda without bias.	
ICS 3. Information Sharing Skills with Patients and their Families Communicate effectively within the context of the cultural beliefs, practices, and needs presented by patients and their communities. EPA: 1, 3, 4, 11 <i>ILO: oral communication, written communication</i>	<i>ICS 3-a</i> Describe how patients' background and culture influence doctor-patient communication.		<i>ICS 3-b</i> Understand the impact of implicit bias in patient care and information sharing.	
			<i>ICS 3-c</i> Communicate effectively with patients and families of diverse backgrounds and cultures, avoiding use of medical jargon.	<i>ICS 3-d</i> Communicate effectively with patients and families of diverse backgrounds and cultures, including engaging in collaborative diagnostic and treatment planning and exploring potential obstacles to the execution of plans.
ICS 4. Information Sharing with Professional Associates Present and document patient information to professional associates. EPA: 3, 4, 5, 6, 8, 10 <i>ILO: oral communication, written communication</i>	<i>ICS 4-a</i> Demonstrate the ability to create a written history and physical examination in a logical, organized and accurate fashion.	<i>ICS 4-b</i> Demonstrate fundamentals of oral presentation and clinical reasoning skills.	<i>ICS 4-c</i> Present and document patient information in an organized, accurate and logical fashion, and begin to tailor a presentation to the setting (early year three).	<i>ICS 4-d</i> Present and document patient information in an organized, accurate and logical fashion, using a problem-based approach and distilling relevant information into an assessment and plan in a variety of settings.
ICS 5. Communication with the Medical Team Work cooperatively with interprofessional health care teams. EPA: 5, 8, 9, 10 <i>ILO: oral communication, written communication</i>	<i>ICS 5-a</i> Demonstrate the ability to contribute and learn in a team environment and demonstrate respectful communication with colleagues.		<i>ICS 5-b</i> Communicate effectively and respectfully with all members of the interprofessional team.	<i>ICS 5-c</i> Communicate effectively and respectfully with all members of the interprofessional team in a variety of settings, hand-offs and transitions of care.

PRACTICE-BASED LEARNING & IMPROVEMENT- Students must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.

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	Year 1	Year 2	Year 3	Year 4
PBL 1. Evidence-Based Medicine Use principles of evidence-based medicine to optimize patient care. (EPA 7) EPA: 1, 3, 7, 10 ILO: critical thinking, information literacy, quantitative reasoning	<i>PBL 1-a</i> Recognize and apply the fundamental skills of EBM in the classroom setting. These skills include: (a) asking relevant questions (b) acquiring the evidence (c) appraising the quality of evidence (d) applying the evidence to patient care.		<i>PBL 1-c</i> Apply the principles and methods of EBM to acquire, appraise, and apply new basic biomedical science and clinical information in direct patient care settings. <i>PBL 1-d</i> Use advances in information technology to access evidence at the point of care and to optimize patient care.	
	<i>PBL 1-b</i> Use information technology [IT] to access relevant information.		<i>PBL 1-e</i> Integrate new information into the practice of medicine while considering the values, preferences and expectations of the patients.	
PBL 2. Feedback, Self-assessment and Reflection Develop lifelong learning skills through seeking feedback, self-assessment and reflection. EPA: 9, 12	<i>PBL 2-a</i> Self-reflect on implicit bias and describe strategies to overcome these biases.		<i>PBL 2-e</i> Actively seek formative and summative assessment from supervisors and other members of the health care team.	
	<i>PBL 2-b</i> Articulate the value and importance of feedback and self-assessment.		<i>PBL 2-f</i> Acknowledge personal limitations in one's own knowledge skills, and judgement.	
	<i>PBL 2-c</i> Identify principles of good feedback and distinguish between formative and summative evaluation.		<i>PBL 2-g</i> Use feedback and practice improvement data to reflect and set specific learning goals for self-improvement in the clinical setting.	
	<i>PBL 2-d</i> Use feedback to self-identify areas in need of improvement.		<i>PBL 2-h</i> Participate in the education of patients, families, peers and other health professionals.	
PBL 3. Practice-based Quality Improvement Engage in improvement of health care systems. EPA: 13 ILO: critical thinking, information literacy, quantitative reasoning	<i>PBL 3-a</i> Apply improvement methodology principles to a personal and patient care experience.		<i>PBL 3-b</i> Know the key principles of quality improvement and explain their importance to patient safety and quality of care.	
			<i>PBL 3-c</i> Engage in the process of continuous quality improvement during clinical rotations. <i>PBL 3-d</i> Apply the principles of quality improvement to assess and improve clinical performance and patient safety	