

FOUNDATION PHASE: MEDICAL KNOWLEDGE (MK)

Students must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge in patient care, specifically:

Enabling Competency		Milestones	
1	Describe the normal structure and function of the human body and of each of its major organ systems across the life span.	MK1FN1	Describe the normal structure and function of the human body at the subcellular, cellular, tissue, organ, and body level, outlining how anatomy, cell biology, and physiology work together.
		MK1FN2	Discuss the normal processes of pregnancy, growth in childhood, and maturation through adulthood to the end of life.
2	Explain various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, behavioral, and traumatic) of major diseases and conditions and the ways in which they operate on the body (pathogenesis).	MK2FN1	Recognize variations of normal development and function of organs and systems due to various causes.
		MK2FN2	Describe the various causes of disease and how these are manifest in organ system dysfunction.
3	Describe how the altered structure and function (pathology and pathophysiology) of the body and its major organ systems are manifest through major diseases and conditions.	MK3FN1	Describe the pathology and pathophysiology underlying the clinical manifestations of common conditions.
4	Identify the proximate and ultimate factors that contribute to the development of disease and illness, and that contribute to health status within and across populations regionally, nationally, and globally.	MK4FN1	List major contributors to health and disease in populations including mechanisms of action.
		MK4FN2	Recognize the genetic basis of disease as a complex interaction with social conditions and life experiences.
		MK4FN3	Describe the determinants of health and disease and provide specific examples of how these determinants influence health outcomes in common/major diseases.
		MK4FN4	Discuss demographics, social conditions, and behaviors that predispose patients to health and disease and decreased function (e.g., alcohol addiction, obesity).
5	Demonstrate knowledge of the basic principles of human behavior throughout the life cycle, including development during infancy, childhood, adolescence, adulthood, and end of life.	MK5FN1	Discuss the basic principles of normal human development from fetus to elder.
		MK5FN2	Discuss variations in family and individual life cycles in view of the heterogeneity of the U.S. population.
		MK5FN3	Describe human developmental milestones and characteristic behavioral changes expected throughout the life cycle.
		MK5FN4	Outline the taxonomy of abnormal human behavior and development.
		MK5FN5	Recognize dysfunctions of the family life cycle.

6	Recognize the medical consequences of common societal problems.	MK6FN1	Describe the impact on health of life experiences, poverty, education, race, gender, culture, crime, and the health care system.
		MK6FN2	Recognize the contribution of social conditions and problems to the health and disease outcomes of patients.

FOUNDATION PHASE: PATIENT CARE/CLINICAL SKILLS (PC)

Students must be able to provide care that is compassionate, appropriate, and effective for treating health problems and promoting health, specifically:

Enabling Competency		Milestones	
1	Obtain an accurate, age-appropriate medical history.	PC1FN1	Include sexual history, functional status, relevant family history, community and family context of care, substance abuse history, and cultural competence in medical history and explain to reluctant patients why these components are included in the history.
		PC1FN2	Demonstrate that the patient's autonomy and privacy are respected in the history taking process.
		PC1FN3	Perform a complete medical history on an adult patient, integrating across organ systems and including elements necessary for development of a therapeutic plan.
		PC1FN4	Obtain a medical history from a pediatric patient incorporating parent(s) as appropriate.
		PC1FN5	Describe issues related to obtaining a medical history from geriatric patients and patients at the end of life.
		PC1FN6	Discuss differences in the approach to the patient history based on patient's presenting complaint.
2	Demonstrate proper technique in performing both a complete and a symptom-focused examination, addressing issues of patient modesty and comfort.	PC2FN1	Demonstrate comfort with the examination while assuring patient dignity, privacy, safety, and satisfaction.
		PC2FN2	Sensitively perform male and female GU exam and female breast exam.
		PC2FN3	Perform proper hand washing technique before each patient encounter.
		PC2FN4	Sensitively perform and interpret the results of a full physical examination in patients with common abnormalities.
		PC2FN5	Discuss differences in the approach to the physical examination based on patient presenting complaint.
		PC2FN6	Perform a pediatric physical exam.

3	Perform routine technical procedures and tests under supervision and with minimal discomfort to the patient.	PC3FN1	Identify important elements related to patient privacy, comfort, and safety during basic and advanced procedures.
		PC3FN2	Describe proper procedure/protocol for gowning/draping of patients for procedures.
		PC3FN3	Discuss technique(s) and basic science foundation for basic and advanced procedures.
		PC3FN4	Perform basic and advanced procedures in a simulated setting, understanding the indications for, and risks of, these procedures.
		PC3FN5	Outline the important elements of, and process for, obtaining informed consent.
		PC3FN6	Perform proper hand washing technique before each procedure.
4	Justify each diagnostic test ordered and management strategy proposed with regard to cost, effectiveness, risks and complications, and the patient's overall goals and values.	PC4FN1	Identify the key questions to ask when developing a risk to benefit ratio for any given diagnostic or therapeutic intervention.
		PC4FN2	Explain the rationale, expected results, cost, risks, and complications of diagnostic tests and therapeutic strategies commonly used in the clinical setting.
		PC4FN3	List the common testing methodologies, the advantages and disadvantages of the tests, how test samples are procured, and how to prepare patients to undergo the tests.
5	Apply clinical reasoning and critical thinking skills in developing a differential diagnosis and management plan.	PC5FN1	Generate a broad differential diagnosis based on pathological mechanisms and disease prevalence and identify the most likely diagnoses on that list.
		PC5FN2	Develop a basic diagnostic and therapeutic plan based on this differential diagnosis.
6	Apply the principles of pharmacology, therapeutics, and therapeutic decision-making to the care of an individual patient.	PC6FN1	Obtain a medication history and identify potential side effects and drug interactions.
		PC6FN2	Discuss the mechanism of action, common adverse effects, effectiveness, risks, and costs of pharmacological therapeutics used to treat core medical conditions, including discussion of brand versus generic medication.
		PC6FN3	Discuss the use of alternative medications.

7	Identify and incorporate into the care of patient's appropriate prevention strategies for common conditions.	PC7FN1	Identify the most common causes of morbidity and mortality in specific patient populations and discuss recommended screening test for these conditions.
		PC7FN2	Describe available strategies of prevention (e.g., screening, vaccination, education/counseling, etc.) and their respective characteristics, limitations, and benefits.
		PC7FN3	Discuss the use of national guidelines (e.g., U.S. Preventive Services Task Force) in the care of individual patients.
		PC7FN4	Evaluate the benefits and limitations of the use of guidelines for common conditions.
		PC7FN5	Apply principles of clinical epidemiology to select and evaluate prevention strategies for clinical cases.
		PC7FN6	Complete a motivational interview and identify the basic principles of behavior change related to prevention.
8	Identify when patients have life-threatening conditions and institute appropriate initial therapy.	PC8FN1	Identify the normal and abnormal parameters for vital signs.
		PC8FN2	Achieve certification in Basic Life Support.
		PC8FN3	Discuss the etiology, presentation, and management of common life-threatening conditions.
9	Describe the scientific principles underlying diagnostic methodologies.	PC9FN1	Describe the anatomical, histological, and physiological principles that underlie physical, radiological, and laboratory testing.
		PC9FN2	Recognize that diagnostic tests are imprecise in measurable ways.
		PC9FN3	Explain sensitivity, specificity, positive and negative predictive values, and likelihood ratios, and describe how they are used in clinical decision making.
		PC9FN4	Discuss the basic scientific principles of radiologic diagnostic tests and be able to give examples of how these tests should be used appropriately in patient care.
		PC9FN5	Describe how common clinical laboratory tests are used in diagnosis and treatment monitoring.

FOUNDATION PHASE: INTERPERSONAL AND COMMUNICATION SKILLS (IC)

Students must demonstrate interpersonal and communication skills that facilitate effective interactions with patients and their families and other health professionals, specifically:

Enabling Competency		Milestones	
1	Communicate effectively in oral format with patients, patients' families, colleagues, and other health care professionals.	IC1FN1	Describe the important components of effective oral doctor-patient communication.
		IC1FN2	Discuss barriers to effective oral doctor-patient communication in the clinical care setting.
		IC1FN3	Demonstrate effective oral communication skills with patients in clinical setting.
		IC1FN4	Use oral communication skills effectively within the classroom setting.
		IC1FN5	Effectively present the findings of a full history and physical examination in oral format.
		IC1FN6	Discuss how health literacy impacts the care of patients.
		IC1FN7	Use an interpreter/simulator to facilitate communication with patients and their families.
2	Communicate effectively in written format with patients, patients' families, colleagues, and other health care professionals.	IC2FN1	Describe the important components of effective written doctor-patient communication.
		IC2FN2	Discuss barriers to effective written doctor-patient communication in the clinical care setting.
		IC2FN3	Use written and electronic communication skills effectively within the classroom setting.
		IC2FN4	Effectively document the findings of a full history and physical examination in written format.
		IC2FN5	Research and write an analytic paper critically assessing the social dimensions of health, illness, or medical care.
3	Demonstrate collaborative teamwork skills and the ability to work effectively with other members of the health care team.	IC3FN1	List the major elements of highly performing teams and how these concepts can be applied to patient care.
		IC3FN2	Work collaboratively as a member of a team to solve clinical problems.
4	Sensitively address end-of-life issues with patients and their families, including do-not-resuscitate orders and pain management.	IC4FN1	Discuss death as a personal and cultural practice, including various conceptual approaches such as the Kubler-Ross stages of dying or ideas about the afterlife.
		IC4FN2	Assess functionality, pain, support needs, familiarity with functions of DNR orders, health care power of attorney, advance directives, and capacity/competence.
		IC4FN3	Discuss the basic elements of therapeutic pain management.
		IC4FN4	Identify the core elements of advance directives and palliative care.

FOUNDATION PHASE: PROFESSIONALISM (PR)

Students must demonstrate a commitment to professional service, adherence to ethical principles, sensitivity to patients, and maintain personal health and well-being, specifically:

Enabling Competency		Milestones	
1	Treat patients and colleagues with confidentiality, attentiveness, altruism, respect, empathy, and responsibility.	PR1FN1	Demonstrate knowledge of current confidentiality laws and regulations.
		PR1FN2	Distinguish between those behaviors modeled by clinicians that demonstrate these attributes and those that do not.
		PR1FN3	Reflect upon encounters with patients and colleagues and identify ways to better demonstrate these attributes.
2	Demonstrate personal accountability by actively seeking feedback, admitting errors openly, and honestly modifying behavior.	PR2FN1	Describe potential errors in medical practice and outline methods of addressing errors (e.g., personal, system, policy levels).
		PR2FN2	Demonstrate ability to appropriately exchange constructive feedback with fellow medical students and faculty.
		PR2FN3	Describe proper methods to request and respond to feedback.
3	Recognize that the social contract charges physicians to be self-regulating and accountable.	PR3FN1	Describe the evolving social contract between physicians and society.
		PR3FN2	Review process of state licensure and hospital credentialing.
		PR3FN3	Identify ways in which physician performance is scrutinized by those outside the field and by those within the field at a practice, hospital, and state level.
4	Demonstrate ability to adapt to expectations within medical cultures and patient cultures in order to function effectively.	PR4FN1	Identify and discuss the ways in which beliefs and practices of different cultures have an impact on the health care that patients seek and receive.
		PR4FN2	Demonstrate respect for varying expectations, values, cultures, and characteristics of patients and health care providers that you have experienced.
5	Identify and develop the leadership skills required in an era of teamwork.	PR5FN1	Identify benefits of working in teams.
		PR5FN2	List qualities that make a health care provider a good team player and a good leader.
		PR5FN3	Consider how you can start developing leadership skills even within small group work.
		PR5FN4	Observe clinicians and health care teams at work and identify characteristics of a good health care leader.
		PR5FN5	Identify behaviors among the healthcare team members which undermine the team's work.

6	Identify and apply theories and principles that govern ethical decision-making within medicine.	PR6FN1	List and discuss the fundamental principles which are the basis of modern medical ethics: autonomy, beneficence, non-maleficence, and justice, as well as other approaches to medical ethics (e.g., case-based, narrative, feminist).
		PR6FN2	Discuss the ethical considerations underlying informed consent.
		PR6FN3	Discuss when involuntary treatment options should be considered or initiated.
7	Advocate for a health care system that places the interests of all patients at the center of decisions about the structure and allocation of healthcare resources.	PR7FN1	Identify examples of individual physicians advocating for the needs of individual patients.
		PR7FN2	Identify examples of individual physicians advocating for system changes to improve the health of patients.
		PR7FN3	Describe gaps in resources available to patients in a community and what system changes or new community resources could fill these gaps.
8	Identify the causes, prevalence, symptoms, and negative impact on patient care of physician burnout and begin to formulate a thoughtful individual personal plan for dealing with stress and work life balance.	PR8FN1	Define and discuss the concept of physician burnout including the definition, symptoms, and negative impact on provider quality of life and patient care.
		PR8FN2	Identify the resources available to help medical students who have such symptoms and explain the benefits of seeking help early as well as the robust measures available to protect the privacy of students who seek help.
		PR8FN3	Discuss strategies for stress management.

**FOUNDATION PHASE: LIFELONG LEARNING (LL)
INCLUDING PRACTICE-BASED LEARNING AND IMPROVMENT**

Students must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their practice of medicine, specifically:

Enabling Competency		Milestones	
1	Demonstrate skills in retrieving, critically assessing, and integrating social and biomedical information into clinical decision-making.	LL1FN1	Retrieve pertinent biomedical information from electronic databases.
		LL1FN2	Obtain, analyze, and synthesize information from the medical literature.
		LL1FN3	Formally assess the internal and external validity of original clinical research.
		LL1FN4	Critically assess and apply biomedical information to address diagnostic, prognostic, and/or treatment questions in clinical care setting.
2	Discuss the basic principles of basic, clinical, and translational research and how this research is applied to patient care.	LL2FN1	Describe the fundamental components of basic, clinical, and translational research.
		LL2FN2	Discuss the fundamental principles underlying the conduct and application of clinical trials in patient care including consideration of conflict of interest.
		LL2FN3	Describe the role of the Institutional Review Board.
		LL2FN4	Discuss how research findings are incorporated into clinical decision making and identify barriers to this incorporation.
3	Reflect upon clinical and educational experiences, evaluate positive and negative aspects, and make changes to improve future experiences.	LL3FN1	Identify ways of improving one's own performance in small-group problem solving.

FOUNDATION PHASE: SYSTEMS-BASED PRACTICE (SB)

Students must demonstrate an awareness of and responsiveness to the larger context and systems of health care and the ability to call on system resources to provide care that is of optimal value, specifically:

Enabling Competency		Milestones	
1	Use electronic and other information tools (e.g., including electronic health records and computer order entry) for systems-based patient care.	SB1FN1	Describe security implications of electronic health information.
		SB1FN2	Access external software applications for use with patient care.
		SB1FN3	Use an electronic medical record in a patient care setting.
2	Identify necessary elements for coordinated care of patients with complex and chronic diseases.	SB2FN1	Identify major community and on-line resources available to patients with chronic disease and their families.
		SB2FN2	Discuss the rules and regulations impacting the coordination of care for patients (e.g., Stark).
		SB2FN3	Discuss the role of community-based resources in the coordinated care of patients with a chronic illness.
		SB2FN4	Discuss the role of primary and specialty physicians in the coordinated care of patients with a chronic illness.
		SB2FN5	Describe the important elements of the referral process.
3	Advocate for enhanced access to health care for members of underserved populations.	SB3FN1	List systems-based factors that limit patient access to health care.
		SB3FN2	Describe venues (institutional, state, national) within which physicians can advocate for improved access to care.
		SB3FN3	Describe “safety net” programs designed to assist indigent and underserved patients.
4	Describe the principles underlying the delivery of high quality patient care and effective patient systems.	SB4FN1	Describe the major principles underlying high quality patient care.
		SB4FN2	Describe the basic elements of highly functioning health delivery systems.
5	Outline the roles of the various members of the healthcare team and describe how these roles can be integrated for optimal patient care.	SB5FN1	Discuss the roles and responsibilities of health care team member in the care of patients
		SB5FN2	Recognize barriers to effective health care team function and how to overcome these barriers to provide optimal patient care.
		SB5FN3	Describe how health care team members are effectively integrated to optimize patient care in the hospital and clinic setting.

FOUNDATION PHASE: IMPROVING THE HEALTH OF POPULATIONS (HP)

Students must demonstrate an understanding of the improvement of the health of populations, for both specific clinical populations and to diseases and conditions important to North Carolina and the US, specifically:

Enabling Competency		Milestones	
1	Describe and apply principles of population health improvement for specific populations with attention to access, cost and clinical outcomes including quality of care, morbidity and mortality, functional status, and quality of life.	HP1FN1	Define relevant terms such as population, public health, etc., and describe key principles pertaining to population health improvement.
		HP1FN2	Compare and contrast between health and medical care of populations.
		HP1FN3	Identify measures of cost, quality, and access and discuss how these measures are used at the population level.
		HP1FN4	List national organizations involved with the development and application of quality measures.
2	Identify factors that place populations at risk for disease or injury and select appropriate strategies for risk reduction.	HP2FN1	Define and calculate risk (cumulative incidence) and define risk factors.
		HP2FN2	Define and contrast primary, secondary, and tertiary prevention.
		HP2FN3	Discuss how population-level risk measures are applied to individuals.
		HP2FN4	Compare and contrast methods used to evaluate the effectiveness of preventive strategies.
		HP2FN5	Describe the prevalence and impact of major diseases in North Carolina.
		HP2FN6	Describe prevalence and impact of major diseases in U.S. society and contrast with prevalence in specific population subgroups.
		HP2FN7	Identify non-clinical strategies used to improve health.
3	Describe various approaches to the organization, financing, and delivery of health care in the United States and other countries and the role of physicians in developing and implementing health policy.	HP3FN1	Describe the organization and financing of the health care system in the United States.
		HP3FN2	Compare and contrast different health care organizations and delivery models.
		HP3FN3	Describe models of physician and hospital payment and approaches to controlling health care costs.
		HP3FN4	Describe the impact of the health care system on health and illness in the U.S. and globally.
		HP3FN5	Describe the roles of primary care physicians and specialists in the U.S. compared to other countries.
		HP3FN6	Discuss factors impacting the current health care workforce in the United States.

4	Identify disparities across populations in North Carolina and nationally and discuss physician roles in reducing these disparities.	HP4FN1	Define and contrast <i>health care</i> disparity and <i>health disparity</i> .
		HP4FN2	Compare and contrast the role of physicians, health systems, and society in creating and maintaining disparities.
		HP4FN3	Identify major diseases in which there are disparities in terms of access, quality, and outcomes within NC and nationally.
		HP4FN4	Discuss the role of health literacy (including numeracy) on care delivery processes and outcomes.
5	Apply principles of patient safety and quality improvement to enhance patient care.	HP5FN1	Discuss the importance of patient safety and describe the basic elements of patient safety programs.
		HP5FN2	Define medical error and discuss the incidence of medical error in the United States and the impact of medical error on patient outcomes.
		HP5FN3	Identify quality measures and describe how these measures are validated.
		HP5FN4	Discuss the principles of quality improvement and describe the basic elements of quality improvement programs.

APPLICATION PHASE: MEDICAL KNOWLEDGE (MK)

Students must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge in patient care, specifically:

Enabling Competency		Milestones	
1	Describe the normal structure and function of the human body and of each of its major organ systems across the life span.	MK1AP1	Integrate knowledge of the expected changes in organ function as well as normal physiologic changes across the lifespan into the care of patients with core medical problems.
2	Explain various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, behavioral, and traumatic) of major diseases and conditions and the ways in which they operate on the body (pathogenesis).	MK2AP1	Explain the pathophysiologic factors underlying the clinical manifestations of common diseases.
3	Describe how the altered structure and function (pathology and pathophysiology) of the body and its major organ systems are manifest through major diseases and conditions.	MK3AP1	Use knowledge of pathology and pathophysiology to develop diagnostic and therapeutic plans for patients with common conditions.
4	Identify the proximate and ultimate factors that contribute to the development of disease and illness, and that contribute to health status within and across populations regionally, nationally, and globally.	MK4AP1	Describe the determinants of disease and health for major clinical situations prevalent in North Carolina including regional variation.
		MK4AP2	Recognize the influence of common determinates of health and illness on patients.
		MK4AP3	Integrate knowledge of social conditions and behaviors that predispose patients to disease and decreased function into the management plan for individual patients.
5	Demonstrate knowledge of the basic principles of human behavior throughout the life cycle, including development during infancy, childhood, adolescence, adulthood, and end of life.	MK5AP1	Recognize the behavioral milestones of normal child development and adult maturation and use these milestones in patient care.
		MK5AP2	Identify common behavioral pathology that contributes to health and illness in common disease/injury states.
		MK5AP3	Incorporate life cycle stage into management planning in patient care.
6	Recognize the medical consequences of common societal problems.	MK6AP1	Create discharge/management plans that address the impact of social conditions and problems on patients.

APPLICATION PHASE: PATIENT CARE/CLINICAL SKILLS (PC)

Students must be able to provide care that is compassionate, appropriate, and effective for treating health problems and promoting health, specifically:

Enabling Competency		Milestones	
1	Obtain an accurate, age-appropriate medical history.	PC1AP1	Obtain appropriately focused and accurate histories and physicals across all age groups and clinical settings.
		PC1AP2	Identify and address barriers to history taking including patient's right to refuse to provide information and to censor information.
		PC1AP3	Compare and contrast appropriate versus inappropriate methods for obtaining a history (e.g., persuasion compared to manipulation and coercion).
2	Demonstrate proper technique in performing both a complete and a symptom-focused examination, addressing issues of patient modesty and comfort.	PC2AP1	Perform an independent, reliable examination across all organ systems with respect to age and gender, identifying major abnormalities found.
3	Perform routine technical procedures and tests under supervision and with minimal discomfort to the patient.	PC3AP1	Assist with the performance of advanced procedures and discuss the indications for, and risks of, these procedures.
		PC3AP2	Discuss under what circumstances a procedure should be halted including withdrawal of consent.
4	Justify each diagnostic test ordered and management strategy proposed with regard to cost, effectiveness, risks and complications, and the patient's overall goals and values.	PC4AP1	Choose appropriate tests and management strategies based on effectiveness, risk, cost, and patient goals and values for core clinical conditions.
		PC4AP2	Demonstrate that shared decision making is reflected in development of the diagnostic and management plan.
		PC4AP3	Recognize the role of elective medications and procedures in patient care and discuss how to balance the risks and benefits in individual patients.
5	Apply clinical reasoning and critical thinking skills in developing a differential diagnosis and management plan.	PC5AP1	Integrate information obtained from history, physical and diagnostic testing, and the medical literature to generate an appropriate differential diagnosis (incorporating knowledge of pretest probability, testing characteristics, and post test probability) and basic management plan for core patient types.
		PC5AP2	Develop appropriate care plans which reflect the cost, risks, and benefits of various diagnostic and therapeutic measures in the context of the patient's goals.
		PC5AP3	Discuss how a patient is involved in developing care plans.

6	Apply the principles of pharmacology, therapeutics, and therapeutic decision-making to the care of an individual patient.	PC6AP1	Select appropriate medications to treat core conditions in inpatient and outpatient settings.
		PC6AP2	Discuss the rationale for selection of medications including indications, side effects, cost, and effectiveness.
		PC6AP3	Perform medication reconciliation for patients at time of discharge.
7	Identify and incorporate into the care of patient's appropriate prevention strategies for common conditions.	PC7AP1	Apply principles of clinical epidemiology to select and evaluate prevention strategies for patients with core medical conditions.
		PC7AP2	Counsel patients about preventive services in non-judgmental terms.
8	Identify when patients have life-threatening conditions and institute appropriate initial therapy.	PC8AP1	List proper protocols for code-blue, trauma response, and rapid response for adult and pediatric patients.
9	Describe the scientific principles underlying diagnostic methodologies.	PC9AP1	Discuss the cost and morbidity implications of diagnostic test imprecision and incidental findings associated with diagnostic evaluations.
		PC9AP2	Incorporate knowledge of the scientific principles underlying laboratory and radiologic diagnostic methodologies into the care of patients with core medical problems.
		PC9AP3	Provide examples of the impact of test variability on laboratory results and how these variables can be managed to minimize the impact on patient care decisions.

APPLICATION PHASE: INTERPERSONAL AND COMMUNICATION SKILLS (IC)

Students must demonstrate interpersonal and communication skills that facilitate effective interactions with patients and their families and other health professionals, specifically:

Enabling Competency		Milestones	
1	Communicate effectively in oral format with patients, patients' families, colleagues, and other health care professionals.	IC1AP1	Demonstrate effective oral communication skills with patients and their families in the clinical care setting.
		IC1AP2	Demonstrate effective oral communication skills with colleagues and other health professionals in clinical care settings.
		IC1AP3	Present the findings of a history and physical examination, diagnostic test results, and management plan.
		IC1AP4	Demonstrate the development of professionally appropriate relationships with patients.
2	Communicate effectively in written format with patients, patients' families, colleagues, and other health care professionals.	IC2AP1	Communicate the findings of a history and physical examination, diagnostic test results, daily progress notes, procedures, and management plan in the electronic medical record.
		IC2AP2	Edit medication list and problem list in the ambulatory electronic medical record.
		IC2AP3	Use templates of care for chronic disease in the ambulatory care setting.
		IC2AP4	Draft orders in the electronic medical records.
3	Demonstrate collaborative teamwork skills and the ability to work effectively with other members of the health care team.	IC3AP1	Apply teamwork skills in collaboration with other members of the health care team to provide appropriate health care to patients.
4	Sensitively address end-of-life issues with patients and their families, including do-not-resuscitate orders and pain management.	IC4AP1	Identify salient end-of-life issues for discussion with patient and family and actively participate in discussion with patient and family alongside other treatment team members.
		IC4AP2	Assess alternatives, risks, and benefits regarding options for pain and symptom control at the end of life.

APPLICATION PHASE: PROFESSIONALISM (PR)

Students must demonstrate a commitment to professional service, adherence to ethical principles, sensitivity to patients, and maintain personal health and well-being, specifically:

Enabling Competency		Milestones	
1	Treat patients and colleagues with confidentiality, attentiveness, altruism, respect, empathy, and responsibility.	PR1AP1	Reflect upon challenging encounters with patients and colleagues and identify ways to better demonstrate these attributes.
		PR1AP2	Demonstrate these attributes in all patient encounters.
2	Demonstrate personal accountability by actively seeking feedback, admitting errors openly, and honestly modifying behavior.	PR2AP1	Demonstrate ability to disclose and be accountable for mistakes with faculty.
		PR2AP2	Discuss the role of morbidity and mortality conferences in promoting professional development.
		PR2AP3	Demonstrate ability to appropriately exchange constructive feedback with the health care team.
3	Recognize that the social contract charges physicians to be self-regulating and accountable.	PR3AP1	List reporting responsibilities that physicians encounter in relation to individual patients.
		PR3AP2	List reporting responsibilities that physicians bear in relation to one another.
		PR3AP3	Identify situations in which our profession's societal contract to improve the health of the population conflicts with an individual professional's social contract with his/her patient to provide the best possible care for that individual.
		PR3AP4	Identify commitments which might pose a conflict of interest, financial, or otherwise, for a health care provider.
4	Demonstrate ability to adapt to expectations within medical cultures and patient cultures in order to function effectively.	PR4AP1	Reflect on the various medical cultures that you have experienced and ways in which these had an impact on patient care and student choice of specialty.

5	Identify and develop the leadership skills required in an era of teamwork.	PR5AP1	Consider what process improvement strategies can be utilized and what feedback can be provided to improve team function.
		PR5AP2	Engage and integrate other health care team members in shared decision making and utilize their full range of knowledge, skills, and experience.
6	Identify and apply theories and principles that govern ethical decision-making within medicine.	PR6AP1	Describe the process for obtaining a DNR order and discuss the ethical considerations underlying advanced care/end-of-life planning.
		PR6AP2	Assist with obtaining an informed consent from a patient.
		PR6AP3	Identify situations in which consultation with an ethics committee or colleagues is advised.
7	Advocate for a health care system that places the interests of all patients at the center of decisions about the structure and allocation of healthcare resources.	PR7AP1	Describe practice, hospital, and organizational structures that negatively impact patient centered care.
		PR7AP2	Identify a group of patients underserved by the current health care system and describe efforts of advocacy organizations working to correct this.
8	Identify the causes, prevalence, symptoms, and negative impact on patient care of physician burnout and begin to formulate a thoughtful individual personal plan for dealing with stress and work life balance.	PR8AP1	Employ strategies to avoid burnout in a way that is consistent with your personal values, goals, and individual personality.

**APPLICATION PHASE: LIFELONG LEARNING (LL)
INCLUDING PRACTICE-BASED LEARNING AND IMPROVMENT**

Students must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their practice of medicine, specifically:

Enabling Competency		Milestones	
1	Demonstrate skills in retrieving, critically assessing, and integrating social and biomedical information into clinical decision-making.	LL1AP1	Assess and apply biomedical information to develop a plan of care for core patient types.
2	Discuss the basic principles of basic, clinical, and translational research and how this research is applied to patient care.	LL2AP1	Discuss how clinical and research roles may conflict and how processes of consent may differ.
		LL2AP2	Describe the process of obtaining appropriate informed consent for participation in research.
3	Reflect upon clinical and educational experiences, evaluate positive and negative aspects, and make changes to improve future experiences.	LL3AP1	Provide self-evaluation of clinical encounters and progress towards achievement of competencies.

APPLICATION PHASE: SYSTEMS-BASED PRACTICE (SB)

Students must demonstrate an awareness of and responsiveness to the larger context and systems of health care and the ability to call on system resources to provide care that is of optimal value, specifically:

Enabling Competency		Milestones	
1	Use electronic and other information tools (e.g., including electronic health records and computer order entry) for systems-based patient care.	SB1AP1	Use an electronic medical record in the care of assigned patients.
2	Identify necessary elements for coordinated care of patients with complex and chronic diseases.	SB2AP1	Demonstrate ability to refer a patient and follow up with primary care team.
		SB2AP2	Assist with development of a case management plan for a patient.
3	Advocate for enhanced access to health care for members of underserved populations.	SB3AP1	Assist in arranging for appropriate community resources for a patient who is being discharged or who has access challenges.
4	Describe the principles underlying the delivery of high quality patient care and effective patient systems.	SB4AP1	Discuss the application of high quality patient care principles to the care of individual patients.
5	Outline the roles of the various members of the healthcare team and describe how these roles can be integrated for optimal patient care.	SB5AP1	Develop patient care plans integrating the roles of health care team members in the hospital and clinic setting.
		SB5AP2	Describe how health care team members are effectively integrated to optimize patient care across different levels of care.

APPLICATION PHASE: IMPROVING THE HEALTH OF POPULATIONS (HP)

Students must demonstrate an understanding of the improvement of the health of populations, for both specific clinical populations and to diseases and conditions important to North Carolina and the US, specifically:

Enabling Competency		Milestones	
1	Describe and apply principles of population health improvement for specific populations with attention to access, cost, and clinical outcomes including quality of care, morbidity and mortality, functional status, and quality of life.	HP1AP1	Assess the outcomes of care for one primary care across a population using measures of cost, quality, and access.
2	Identify factors that place populations at risk for disease or injury and select appropriate strategies for risk reduction.	HP2AP1	Apply evidence-based clinical strategies for reducing risk in the inpatient or outpatient setting.
3	Describe various approaches to the organization, financing, and delivery of health care in the United States and other countries and the role of physicians in developing and implementing health policy.	HP3AP1	Identify the impact of financial policies (of health systems and of insurance companies) on health and health care of individual patients seen in clinical rotations.
4	Identify disparities across populations in North Carolina and nationally and discuss physician roles in reducing these disparities.	HP4AP1	Identify diseases and conditions in patients seen during clinical rotations that may be influenced by health care disparities.
		HP4AP2	Discuss the physician's role in addressing these disparities.
5	Apply principles of patient safety and quality improvement to enhance patient care.	HP5AP1	Identify potential patient safety issues and identify strategies to improve outcomes in the clinical setting.
		HP5AP2	Identify a change or changes in patient care at UNC that have resulted from a quality improvement project.

INDIVIDUALIZATION PHASE: MEDICAL KNOWLEDGE (MK)

Students must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g., epidemiological and social-behavioral) sciences and the application of this knowledge in patient care, specifically:

Enabling Competency		Milestones	
1	Describe the normal structure and function of the human body and of each of its major organ systems across the life span.	MK1IN1	Integrate knowledge of the expected changes in organ function as well as normal physiologic changes across the lifespan into the care of critically ill and emergent patients and patients at the end-of-life.
2	Explain various causes (genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, behavioral, and traumatic) of major diseases and conditions and the ways in which they operate on the body (pathogenesis).	MK2IN1	Discuss the pathogenesis of major conditions related to area(s) of specialty/disciplinary interest.
3	Describe how the altered structure and function (pathology and pathophysiology) of the body and its major organ systems are manifest through major diseases and conditions.	MK3IN1	Describe the altered structure and function of organ systems producing disease across the lifespan and incorporate this knowledge into the care of individual patients.
4	Identify the proximate and ultimate factors that contribute to the development of disease and illness, and that contribute to health status within and across populations regionally, nationally, and globally.	MK4IN1	Implement interventions to reduce the impact of disease determinants (or improve the likelihood of health improvements) in the care of individual patients.
		MK4IN2	Describe the determinants of disease and health for major clinical situations prevalent nationally and globally.
5	Demonstrate knowledge of the basic principles of human behavior throughout the life cycle, including development during infancy, childhood, adolescence, adulthood, and end of life.	MK5IN1	Utilize advanced behavioral modification strategies to help patients achieve life style changes.
6	Recognize the medical consequences of common societal problems.	MK6IN1	Describe strategies to ameliorate the impact of social conditions and problems on the health and disease outcomes of patients.

INDIVIDUALIZATION PHASE: PATIENT CARE/CLINICAL SKILLS (PC)

Students must be able to provide care that is compassionate, appropriate, and effective for treating health problems and promoting health, specifically:

Enabling Competency		Milestones	
1	Obtain an accurate, age-appropriate medical history.	PC1IN1	Obtain accurate information from patients, including children and patients with special situations (e.g., end-of-life, bedbound/demented patients, by telephone).
		PC1IN2	Adjust interview to overcome potential barriers including socioeconomic circumstance, literacy levels, ethnicity, and cultural practices.
2	Demonstrate proper technique in performing both a complete and a symptom-focused examination, addressing issues of patient modesty and comfort.	PC2IN1	Perform focused physical examination in area(s) of specialty/disciplinary interest.
3	Perform routine technical procedures and tests under supervision and with minimal discomfort to the patient.	PC3IN1	Perform selected advanced procedures under supervision and with minimal discomfort of the patient and discuss the indications for, and risks of, these procedures.
4	Justify each diagnostic test ordered and management strategy proposed with regard to cost, effectiveness, risks and complications, and the patient's overall goals and values.	PC4IN1	Explain the risks and benefits of diagnostic tests and management strategies to patients and family members.
5	Apply clinical reasoning and critical thinking skills in developing a differential diagnosis and management plan.	PC5IN1	Integrate information obtained from history, physical and diagnostic testing, and review of the medical literature to generate an appropriate differential diagnosis and management plan for critically ill and emergent patients.
6	Apply the principles of pharmacology, therapeutics, and therapeutic decision-making to the care of an individual patient.	PC6IN1	Differentiate between alternative medications for common conditions based on therapeutic effectiveness and cost considerations.
		PC6IN2	Identify cost-related barriers to patient medication use.
7	Identify and incorporate into the care of patient's appropriate prevention strategies for common conditions.	PC7IN1	Select appropriate prevention strategies for disease management within populations including intended and unintended consequences.
		PC7IN2	Select and integrate prevention strategies into management of patients in area(s) of specialty/disciplinary interest.
8	Identify when patients have life-threatening conditions and institute appropriate initial therapy.	PC8IN1	Participate in the diagnosis and management of common life-threatening conditions.
9	Describe the scientific principles underlying diagnostic methodologies.	PC9IN1	Incorporate knowledge of the scientific principles underlying laboratory and radiologic diagnostic methodologies into the care of critically ill and emergent patients.
		PC9IN2	Describe the scientific basis for the diagnostic tests used in area(s) of specialty/disciplinary interest.

INDIVIDUALIZATION PHASE: INTERPERSONAL AND COMMUNICATION SKILLS (IC)

Students must demonstrate interpersonal and communication skills that facilitate effective interactions with patients and their families and other health professionals, specifically:

Enabling Competency		Milestones	
1	Communicate effectively in oral format with patients, patients' families, colleagues, and other health care professionals.	IC1IN1	Use literacy-level appropriate language to overcome health literacy barriers in clinical care setting.
2	Communicate effectively in written format with patients, patients' families, colleagues, and other health care professionals.	IC2IN1	Use written and electronic communication skills effectively within the clinical care setting (e.g., discharge summaries, medication lists, giving bad news, discussing DNR orders).
3	Demonstrate collaborative teamwork skills and the ability to work effectively with other members of the health care team.	IC3IN1	Demonstrate teamwork skills and initiative, working collaboratively with all members of the health care team in challenging clinical environments (e.g., ICU, ER).
4	Sensitively address end-of-life issues with patients and their families, including do-not-resuscitate orders and pain management.	IC4IN1	Assist with the creation of a multi-dimensional treatment plan for patients at end-of-life.

INDIVIDUALIZATION PHASE: PROFESSIONALISM (PR)

Students must demonstrate a commitment to professional service, adherence to ethical principles, sensitivity to patients, and maintain personal health and well-being, specifically:

Enabling Competency		Milestones	
1	Treat patients and colleagues with confidentiality, attentiveness, altruism, respect, empathy, and responsibility.	PR1IN1	Reflect upon the particular challenges to demonstrating these attributes in specialty specific encounters.
2	Demonstrate personal accountability by actively seeking feedback, admitting errors openly, and honestly modifying behavior.	PR2IN1	Define performance improvement and risk management and discuss essential elements of the process as it applies to patient care.
3	Recognize that the social contract charges physicians to be self-regulating and accountable.	PR3IN1	Discuss the process of Board Certification and Maintenance of Certification.
		PR3IN2	Explore the ways in which professional organizations advocate for their professions.
		PR3IN3	Discuss the mechanism by which a complaint against a physician is reviewed by the North Carolina medical board, the hospital, and/or a professional society.
4	Demonstrate ability to adapt to expectations within medical cultures and patient cultures in order to function effectively.	PR4IN1	Identify situations in which you might alter the way you approach a patient because of a difference in patient cultures within your choice of specialty.
5	Identify and develop the leadership skills required in an era of teamwork.	PR5IN1	Identify and list leadership structures, both formal and informal, in complex teams.
		PR5IN2	Identify positive characteristics of those leaders that you already possess and ones that you do not and identify ways to develop those additional characteristics.
6	Identify and apply theories and principles that govern ethical decision-making within medicine.	PR6IN1	Identify resources within the hospital and the medical and legal and humanities communities to assist practitioners in resolving complex ethical dilemmas.
		PR6IN2	Apply fundamental ethical principles and approaches to case management of critically and emergently ill patients.
7	Advocate for a health care system that places the interests of all patients at the center of decisions about the structure and allocation of healthcare resources.	PR7IN1	Participate in a practice, hospital, or organizational process improvement to increase patient centeredness of care.
		PR7IN2	Describe the use of community resources in care of individual patients.
		PR7IN3	Discuss an example for advocacy for improved care for patients or communities at local or national level.

8	Identify the causes, prevalence, symptoms, and negative impact on patient care of physician burnout and begin to formulate a thoughtful individual personal plan for dealing with stress and work life balance.	PR8IN1	Develop a thoughtful individualized plan for dealing with stress, work life balance, and avoidance of burnout during residency training and beyond.
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**INDIVIDUALIZATION PHASE: LIFELONG LEARNING (LL)
INCLUDING PRACTICE-BASED LEARNING AND IMPROVMENT**

Students must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their practice of medicine, specifically:

Enabling Competency		Milestones	
1	Demonstrate skills in retrieving, critically assessing, and integrating social and biomedical information into clinical decision-making.	LL1IN1	Assess and apply biomedical information to address diagnostic, prognostic, and/or treatment questions in area(s) of specialty/disciplinary interest.
2	Discuss the basic principles of basic, clinical, and translational research and how this research is applied to patient care.	LL2IN1	Describe the application of research findings to patient care in area of specialty/disciplinary interest.
		LL2IN2	Explain research findings to patients.
3	Reflect upon clinical and educational experiences, evaluate positive and negative aspects and make changes to improve future experiences.	LL3IN1	Identify ways of improving one's own clinical performance and how to move towards fully achieving competencies.

INDIVIDUALIZATION PHASE: SYSTEMS-BASED PRACTICE (SB)

Students must demonstrate an awareness of and responsiveness to the larger context and systems of health care and the ability to call on system resources to provide care that is of optimal value, specifically:

Enabling Competency		Milestones	
1	Use electronic and other information tools (e.g., including electronic health records and computer order entry) for systems-based patient care.	SB1IN1	Use electronic health information to identify possible enhancements in patient care systems.
2	Identify necessary elements for coordinated care of patients with complex and chronic diseases.	SB2IN1	Incorporate community and online resources into care of patients with complex and chronic diseases and identify which resources are optimal for individual patients.
		SB2IN2	Discuss when it is appropriate for a patient to move between levels of care including discharge.
		SB2IN3	Describe the important elements of patient hand-off/care transitions.
3	Advocate for enhanced access to health care for members of underserved populations.	SB3IN1	Describe alternative hospital/physician payment policies including charity care and discuss the impact of these policies on patient access to care.
4	Describe the principles underlying the delivery of high quality patient care and effective patient systems.	SB4IN1	Identify specific opportunities for enhancement of patient care delivery systems across different levels of care.
5	Outline the roles of the various members of the healthcare team and describe how these roles can be integrated for optimal patient care.	SB5IN1	Develop patient care plans integrating the roles of health care team members across different levels of care.

INDIVIDUALIZATION PHASE: IMPROVING THE HEALTH OF POPULATIONS (HP)

Students must demonstrate an understanding of the improvement of the health of populations, for both specific clinical populations and to diseases and conditions important to North Carolina and the US, specifically:

Enabling Competency		Milestones	
1	Describe and apply principles of population health improvement for specific populations with attention to access, cost, and clinical outcomes including quality of care, morbidity and mortality, functional status, and quality of life.	HP1IN1	Use data from a population (e.g., a panel of patients) using available data sources (e.g., EHR, public health surveillance data, claims data) to assess one aspect of population health and identify ways to improve the care system for this population.
2	Identify factors that place populations at risk for disease or injury and select appropriate strategies for risk reduction.	HP2IN1	Describe the limitations of clinical prevention strategies and compare/contrast these to non-clinical prevention strategies for risk reduction.
3	Describe various approaches to the organization, financing, and delivery of health care in the United States and other countries and the role of physicians in developing and implementing health policy.	HP3IN1	Discuss the role of physicians as leaders and describe ways physicians can engage and influence health policy.
4	Identify disparities across populations in North Carolina and nationally and discuss physician roles in reducing these disparities.	HP4IN1	Identify health disparities in a specific population and develop physician and health system-based strategies to mitigate these disparities.
		HP4IN2	Discuss the effectiveness of strategies to improve health literacy.
5	Apply principles of patient safety and quality improvement to enhance patient care.	HP5IN1	Incorporate the principles of quality improvement to improve the care of patients with core medical problems.