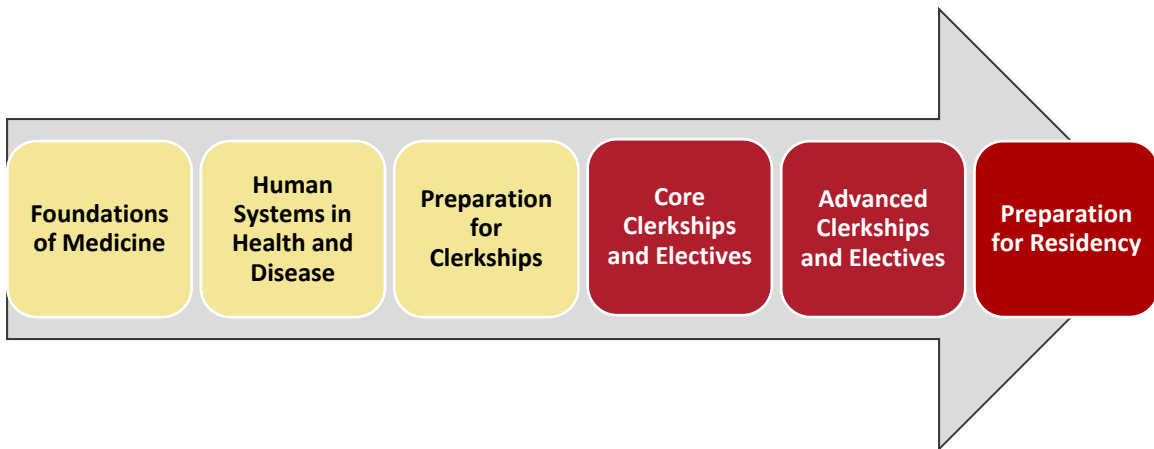


# MEDICINE



## Human Systems in Health and Disease BMS 6041 Host-Defense

Florida State University  
College of Medicine



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# Overview

## Course Goals

**Host-Defense** is the first course of the **Human Systems in Health and Disease** course sequence -- a study of the human functional systems that builds on the structure and function knowledge acquired in **Foundations of Medicine 1: Organization and Structure** and **Foundations of Medicine 2: Molecules to Mechanisms**. **Host-Defense** prepares students to study health and disease in specific systems through mastery of fundamental knowledge of the structure, function and diseases of the immune system, of infectious pathogens and processes, and of the two most basic mechanisms of human disease: inflammation and cancer. The course emphasizes concepts and integrates knowledge from traditional disciplines such as biochemistry, cell biology, histology, immunology, microbiology, pathology, pharmacology, and physiology in the context of clinical application. COM mission-based domains are underscored in specific objectives that address important host-defense issues in geriatric, rural and other underserved populations, such as the blunted immune response to vaccines in elderly patients. Concepts and knowledge acquired in **Host-Defense** are expanded in later courses. For example, the various functions of the white blood cells are presented in **Host-Defense**, and the pathobiology of these cells is further elaborated during the final systems block, **Hematologic System**. Knowledge of the underlying science is used to explain the clinical findings of inflammation, infection and cancer. In a similar way, students learn how to interpret the results of fundamental laboratory tests used to diagnose inflammatory, infectious, neoplastic and immune diseases. Students also begin to learn how to select appropriate additional tests in a cost-effective and evidence-based approach. Curricular themes such as cultural issues, ethics, and public health are developed as essential components in case studies – for example, attitudes, choice and personal vs community consequences of decisions related to vaccination – and in clinical encounters with standardized patients. Students completing **Host-Defense** will understand the structure and function of the immune system in health and disease and its impact on individuals, families, society, and the health care system. They will develop a strong appreciation of how immune cells can protect the host from infection and cancer, and how immunosuppression predisposes to it to these diseases. Students will also learn how, during the course of chronic inflammatory diseases, immune cells may cause collateral damage to the host and how the influence of tumor cells on immune cells may allow them to spread throughout the body. The block additionally covers the basics of pathogenicity of microbes and the drugs used to suppress immune responses (immunosuppressive) and treat infection (antibiotic), inflammation (anti-inflammatory) or cancer (antineoplastic). Mastery of these concepts will enable students to understand the pathogenesis of the most common groups of human diseases: infectious, inflammatory and neoplastic diseases as they impact the systems studied in the remaining blocks of Human Systems in Health and Disease sequence.

## Course Objectives mapped to Education Program Objectives (EPO)

	Course Objectives	EPOs	Means of Assessment
1	Demonstrate effective communication with patients and their families from diverse backgrounds, including culturally and linguistically appropriate interviewing skills, appropriate use of an interpreter, and culturally appropriate verbal and non-verbal behaviors that promote building rapport and trust, and accurate and appropriate vocabulary and concepts infectious and non-infectious disorders and diseases, autoimmune disease, cancer, mental health issues, and sex and gender identity	2.2, 2.3, 4.1, 5.5	Senior Mentor Program; Observation by faculty, staff, and standardized patients
2	Demonstrate the ability to organize and conduct a medical encounter, elicit an accurate and thorough patient-centered medical history and physical and mental status exams appropriate for the patient's reason for visit, and assess functional capacity	1.2, 1.3, 5.1, 5.5	Observation by faculty, preceptor, staff, and standardized patients
3	Demonstrate clinical skills and clinical reasoning necessary to establish the appropriate diagnosis and management of immunosuppression, infection, inflammation and cancer, including selection, justification, and interpretation of appropriate diagnostic laboratory tests and imaging, administration of an intramuscular injection, knowledge and	1.1, 1.2, 1.3, 1.4, 1.6, 2.3, 3.9	Observation by faculty in CLC and small groups

	skills needed for Basic Life Support (BLS), use of point-of-care tools to access guidelines and assess risk, provision of rationales for treatment and management options, and communication of diagnostic information and reasoning, intervention options, and a suggested plan of care with truthfulness, sensitivity and empathy.		
4	Compare and contrast the structures and functions of the immune system cells (WBC) and organs (bone marrow, thymus, spleen, lymph nodes) and describe the mechanisms of pathogenesis of autoimmune, infectious and non-infectious inflammatory diseases, the mechanisms of genetic abnormalities and genetic diseases related to the immune system, the mechanisms that control genomic integrity and cell growth and its failure during carcinogenesis, the cellular mechanisms involved in cancer invasion and metastasis and their relationship to immune system functions	2.2, 2.3	Quizzes and Exams
5	Compare and contrast the features of benign and malignant neoplasms and classify them using appropriate nomenclature	2.2, 2.3	Quizzes and Exams
6	Describe cell responses to stress and injury, the mechanisms of reversible and irreversible cell adaptation, necrosis, and apoptosis, and the mechanisms and components of tissue repair and regeneration	2.2	Quizzes and Exams
7	Describe the mechanisms, targets, and clinical effects of drugs used to treat infectious, inflammatory, autoimmune and neoplastic diseases, including vaccines and their relationship to public and population health	2.2, 2.3, 2.4, 2.5	Quizzes and Exams; IPCS assignment
8	Interpret clinical presentations, including symptoms, signs and/or laboratory findings based on an understanding of the mechanisms of pathogenesis leading to autoimmune inflammatory, infectious and neoplastic diseases; explain the physiological and psychosocial aspects of disease progression for the immune disorders, infection, inflammation and cancer; and describe their appropriate prevention and management, including pharmacological and non-pharmacological approaches	2.1, 2.2, 2.3, 2.4, 2.5, 4.6	Quizzes and Exam; Observation by faculty; Senior Mentor Program
9	Identify social, behavioral, environmental and epidemiologic issues related to infectious, inflammatory and autoimmune disease and cancer, and that may impact care of patients and describe their appropriate identification, prevention and management, including pharmacologic and non-pharmacologic approaches	2.2, 2.3, 2.4, 2.5	Senior Mentor Program; Quizzes and Exams; Observation by faculty in small groups
10	Demonstrate the ability to assess the "patient's unique context" (including family, community, cultural, spiritual, historical and legal factors) and incorporate that information into his/her care	2.5, 9.1, 9.2	Senior Mentor Program; Observation by faculty in CLC; Quizzes and Exams
11	Demonstrate a working understanding of the definitions, policies, regulations and risks associated with human subjects research, including the elements of informed consent and its place in medical ethics, and distinguish among patient safety, medical errors, and adverse events..	5.3, 5.4, 5.6, 6.4	CITI modules; Quizzes and Exams; Observation by faculty in small groups
12	Demonstrate the ability to recognize when one has reached the limits of their knowledge when applying it to understanding clinical problems	3.1	Observation by faculty; Self-assessment
13	Demonstrate effective communication with colleagues and other health professionals, and the ability to clearly and accurately summarize patient findings in verbal presentations and common written formats	4.2, 4.5, 7.3, 7.4	Observation by faculty; Senior Mentor Program
14	Demonstrate the habits of life-long learning – the identification of	3.1, 3.2,	Observation by faculty;

	personal knowledge gaps and application of strategies to find and interpret information to address those gaps	3.3, 3.6	participation in case-based learning activities; PICO assignment
15	Apply the principles and methods of Evidence-Based Medicine to acquire, appraise, and assimilate new clinical information to improve patient care	3.6, 3.7, 3.8	PICO assignment
16	Identify social determinants of health and discuss their relationship to health and wellness, including for underserved populations	2.4, 2.5, 9.1, 9.2	Quizzes and Exams; participation in small group discussions
17	Practice self-evaluation and reflection concerning cultural, moral and ethical issues encountered in the care of patients and the practice of medicine, to identify biases and perceived differences between practitioners and patients; to develop self-awareness of knowledge, skills and emotional limitations; to set learning and improvement goals; and to engage in appropriate help-seeking behaviors	3.1, 3.2, 4.7, 5.5, 8.1	Observation by faculty, staff and advisors; participation in small group discussion and case-based learning activities
18	Demonstrate professional values, attitudes and behaviors in all interactions with faculty, staff, peers and patients and in all activities, including: maintaining confidentiality for patients who participate in the course; demonstration of respect, empathy, compassion, responsiveness and concern regardless of the patient's problems or personal characteristics; integrity and adherence to ethical standards including informed consent; and completion of all required activities in a timely fashion	1.7, 5.1, 5.3, 5.4, 5.5, 5.6	Observation by faculty, Preceptor, staff, peers, and standardized patients; IPCS assignment; tracking of required activities
19	Identify the unique and diverse knowledge, skills, and abilities of other professionals, and their contribution to providing high quality patient care, and exchange relevant information effectively with other health professionals in a respectful manner, considering varied perspectives and ensuring common understanding of and agreement with decisions.	7.1, 7.2, 7.3, 7.4	IPCS assignments and reflection

## FSU COM Education Program Objectives

<b>1</b>	<b>PATIENT CARE: Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health</b>
1.1	Perform all medical, diagnostic, and surgical procedures considered essential for the area of practice
1.2	Gather essential and accurate information about patients and their condition through history-taking, physical examination, and the use of laboratory data, imaging and other tests
1.3	Organize and prioritize responsibilities to provide care that is safe, effective, and efficient
1.4	Interpret laboratory data, imaging studies, and other tests required for the area of practice
1.5	Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
1.6	Develop and carry out patient management plans
1.7	Counsel and educate patients and their families to empower them to participate in their care, showing consideration for their perspective throughout treatment
1.8	Provide appropriate referral of patients including ensuring continuity of care throughout transitions between providers or settings, and following up on patient progress and outcomes
1.9	Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health
1.10	Provide appropriate role modeling
1.11	Perform supervisory responsibilities commensurate with one's roles, abilities, and qualifications
<b>2</b>	<b>KNOWLEDGE FOR PRACTICE: Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care</b>
2.1	Demonstrate an investigatory and analytic approach to clinical situations

2.2	Apply established and emerging bio-physical scientific principles fundamental to health care for patients and populations
2.3	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
2.4	Apply principles of epidemiological sciences to the identification of health problems, risk factors, treatment strategies, resources, and disease prevention/health promotion efforts for patients and populations
2.5	Apply principles of social-behavioral sciences to provision of patient care, including assessment of the impact of psychosocial-cultural influences on health, disease, care-seeking, care-compliance, barriers to and attitudes toward care
2.6	Contribute to the creation, dissemination, application, and translation of new health care knowledge and practices
<b>3</b>	<b>PRACTICE-BASED LEARNING AND IMPROVEMENT: 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 life-long learning</b>
3.1	Identify strengths, deficiencies, and limits in one's knowledge and expertise
3.2	Set learning and improvement goals
3.3	Identify and perform learning activities that address one's gaps in knowledge, skills or attitudes
3.4	Systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement
3.5	Incorporate feedback into daily practice
3.6	Locate, appraise, and assimilate evidence from scientific studies related to patients' health problems
3.7	Use information technology to optimize learning
3.8	Participate in the education of patients, families, students, trainees, peers and other health professionals
3.9	Use information technology to obtain and utilize information about individual patients, populations of patients being served or communities from which patients are drawn to improve care
3.10	Continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcomes
<b>4</b>	<b>Interpersonal and Communication Skills: Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals</b>
4.1	Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds
4.2	Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health related agencies
4.3	Work effectively with others as a member or leader of a health care team or other professional group
4.4	Act in a consultative role to other health professionals
4.5	Maintain comprehensive, timely, and legible medical records
4.6	Demonstrate sensitivity, honesty, and compassion in difficult conversations about issues such as death, end-of-life issues, adverse events, bad news, disclosure of errors, and other sensitive topics
4.7	Demonstrate insight and understanding about emotions and human responses to emotions that allow one to develop and manage interpersonal interactions
<b>5</b>	<b>PROFESSIONALISM: Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles</b>
5.1	Demonstrate compassion, integrity, and respect for others
5.2	Demonstrate responsiveness to patient needs that supersedes self-interest
5.3	Demonstrate respect for patient privacy and autonomy
5.4	Demonstrate accountability to patients, society and the profession
5.5	Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation
5.6	Demonstrate a commitment to ethical principles pertaining to provision or withholding of care, confidentiality, informed consent, and business practices, including compliance with relevant laws, policies, and regulations
<b>6</b>	<b>SYSTEMS-BASED PRACTICE: Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care</b>
6.1	Work effectively in various health care delivery settings and systems relevant to their clinical specialty
6.2	Coordinate patient care within the health care system relevant to their clinical specialty
6.3	Incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based

	care
6.4	Advocate for quality patient care and optimal patient care systems
6.5	Participate in identifying system errors and implementing potential systems solutions
6.6	Work in interprofessional teams to enhance patient safety and improve patient care quality
<b>7</b>	<b>INTERPROFESSIONAL COLLABORATION: Demonstrate the ability to engage in an interprofessional team in a manner that optimizes safe, effective patient- and population-centered care</b>
7.1	Work in cooperation with other professionals to establish and maintain a climate of respect, dignity, diversity, ethical integrity, and trust in order to enhance team functioning and serve the needs of patients, families, and populations
7.2	Utilize and enhance one's own expertise by understanding and engaging the unique and diverse knowledge, skills, and abilities of other professionals to enhance team performance and maximize the quality of patient care
7.3	Exchange relevant information effectively with patients, families, communities, and other health professionals in a respectful, responsive, and responsible manner, considering varied perspectives and ensuring common understanding of, agreement with, and adherence to care decisions for optimal outcomes
7.4	Participate in and engage other members of interprofessional patient care teams in the establishment, development, leadership, and continuous enhancement of the team in order to provide care that is safe, timely, efficient, effective, and equitable
<b>8</b>	<b>PERSONAL AND PROFESSIONAL DEVELOPMENT: Demonstrate the qualities required to sustain lifelong personal and professional growth</b>
8.1	Develop the ability to use self-awareness of knowledge, skills and emotional limitations to engage in appropriate help-seeking behaviors
8.2	Demonstrate healthy coping mechanisms to respond to stress
8.3	Manage conflict between personal and professional responsibilities
8.4	Practice flexibility and maturity in adjusting to change with the capacity to alter behavior
8.5	Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients
8.6	Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system
8.7	Demonstrate self-confidence that puts patients, families, and members of the health care team at ease
8.8	Recognize that ambiguity is part of clinical health care and respond by utilizing appropriate resources in dealing with uncertainty
<b>9</b>	<b>FSU COM MISSION: Demonstrate responsiveness to community needs – especially elder, rural, minority and underserved populations</b>
9.1	Describe the social determinants of health, and identify how they create opportunities for and barriers to wellness for underserved populations.
9.2	Identify community resources and the ways physicians can partner with them to improve individual and population health and address social determinants of health.
9.3	Discuss the process and components of community health assessment.
9.4	Illustrate how community health assessment is used to identify the health needs and issues of a given population and inform decision making to improve population health status.

Detailed learning objectives are provided for each session in the course.

### Course Format

**Host-Defense** emphasizes engaged and active learning through a variety of individual, interactive large group, and case-based small group learning activities as well as standardized patient encounters in the Clinical Learning Center. Formative on-line assessment materials emphasize the development of thinking skills through analysis of data and cases, including biostatistics and epidemiology and NBME/USMLE-type questions. Students are expected to self-assess their learning needs and set goals to address them with the aid of faculty and their learning groups.

### Large Group Sessions

Formal lectures are limited in favor of interactive large group sessions. This learner-centered model uses the principles of active and “flipped” learning. Pre-class preparation by students allows large group time to be spent in active discussion and consolidation of learning that takes maximum advantage of faculty expertise in application exercises and other instruction methodologies. Pre-class preparation assignments prime students for learning with basic didactic material presented through a variety of materials including interactive modules, self-assessment exercises,



video and PowerPoint presentations, and textbook and journal readings. Interactive large group sessions apply and extend that knowledge through clinical case-based inquiry. Success depends on student engagement, preparation, and trust in the safe environment we maintain to encourage students to be curious and even to take intellectual risks. **The emphasis is on developing integrated basic and behavioral science concepts in a clinical context.** Whenever possible, real patients will be present to share their stories and demonstrate signs of their disease. Whenever patients are present, we ask that students wear their white coats and close their computers and other mobile devices as demonstration of respect for these wonderful patients who are willing to help us learn.

#### **Small Group Sessions (attendance required)**

Small group exercises are case- and/or problem-oriented. Some sessions pattern thinking through **progressive disclosure**, others focus on **concept development** through guided engagement with data, while others employ the Jigsaw paradigm to focus on discovering **similarities and differences** of presentations or aspects of disease – the basis of differential diagnosis. Small group exercises are designed for **engaged and active learning** and emphasize reasoning, hypothesis formation, and hypothesis testing. The groups evaluate cases in terms of stated objectives and define additional learning objectives they will need to resolve. In Jigsaw exercises each small group (5-6) of students is assigned a case presentation to discuss and form an hypothesis. Typical questions to be resolved may include: *What explains the presentation? What may be the cause? What more do we need or want to know? How do we acquire and interpret needed information? What are the options/priorities for treatment and management?* Then the small groups re-mix such that each member of each new group “owns” a different case or aspect of a case, which he/she then “teaches” to the new group. In all small group exercises, **all members of the group share responsibility for analyzing and explaining the clinical presentations.** The value of small group exercises is not always the “answer,” but the **reasoning** behind it. Basic and clinical science faculty will be present to ask helpful questions if your group is “stuck” and to encourage your curiosity. During small group exercises, you are free to use any resources (unless otherwise instructed). At the end of each small group exercise, you will be expected to review the complete cases and create a summary in your own words of the “take home” points of the cases considered as a group. **Summarizing and paraphrasing in your own words is a powerful learning tool.**

#### **Clinical Learning Sessions (CLC) (attendance required)**

Throughout the block learners will continue to develop their clinical skills and clinical reasoning during individual or paired SP encounters in the CLC. These encounters will not be restricted to the exam maneuvers or problems associated with the specific system being studied in the block. They will often include reviews of prior organ systems and demonstrations of how systems intersect and impact one another.

### ***Interprofessional Collaborative Skills (IPCS) Assignment: The Consultative Process***

Medical students will be assigned to interprofessional teams which will include another medical student and/or PA student and a second year PharmD student from FAMU. **All ICS assignments, templates, links and submissions are through the Class of 2023 Interprofessional Collaborative Skills course site on Canvas.** Due dates will be posted on Canvas with student Team assignments.

The Consultative Process module is comprised of 4 components:

1. Using a template, each medical student / /PA student team will formulate questions and concerns related to medication use, based on analysis of a virtual patient case and share that list with their Team on Canvas. The PharmD student will independently create and share a similar document.
2. Using the Canvas Discussion board the Team will compare and contrast their perspectives and approaches to the patient.
3. Based on that discussion, the Team will compose and submit a shared summary for faculty feedback.
4. Each medical student will then submit a brief reflection on what they learned about the different approaches and perspectives of the different professions, and will share those insights with their clinical skills small group. Written feedback will be provided by small group facilitators.

### ***PICO Assignment***

**PICO** is a format physicians can use for converting clinical scenarios to **researchable** and **answerable** questions to provide evidence-based care of patients. This format can be used to answer questions about treatment, diagnosis, risk factors, etiology, statistics and phenomena.

- **P** = Patient, Population and/or Problem
- **I** = Intervention, treatment, Prognostic factor, and/or Exposure (Which specific are you considering?)
- **C** = Comparison and/or Control (What is the main alternative to the above?)
- **O** = Outcome (What are you trying to accomplish, improve, or effect?)

Initial information about the PICO format was covered during Foundations of Medicine 2. During the **Host-Defense** block each student will develop a clinically relevant question, framed using the PICO format and submit the assignment via Canvas **no later than 5:00 pm, Friday, November 1<sup>st</sup> to receive feedback from your academic advisor**. Supporting materials and suggestions about PICO questions are available with the assignment on Canvas.

### ***CITI training modules (Collaborative Institutional Training Initiative: Protection of human subjects in research)***

Time is reserved in the curriculum during the second half of the course for students to complete on-line training in the history, ethics and responsible conduct of human research. Completion of the Human Subjects Research (HSR) modules is mandatory for all students. The training is completed on-line at times of your choice. **All required modules must be completed and the certificate of completion uploaded to Canvas no later than 3 PM, Thursday, December 12<sup>th</sup>**. Whether or not you will do research while a medical student or during your residency, an understanding of the scientific and ethical principles of clinical and translational research is essential to all physicians and is an LCME required element of a general medical education (LCME Element 7.3). Information and directions for accessing the modules can be found on the [FSU Human Subjects Research page](#). You will receive additional information about this learning activity from your course directors during the course.

### ***Senior Mentor Program (attendance required)***

Through participation in the **Senior Mentors Home Visits Program**, students learn about the biopsychosocial perspective of aging and develop skills in active listening and history taking. The activities and assignments of the Program occur throughout the Fall semester of Year 1 and contribute to the grade of both Fall courses: **Molecules to Mechanisms** and **Host-Defense**. The Senior Mentor Program pairs two (2) students with an independently-living older person in the community. Working as a team, the students visit with the assigned Senior Mentor 3 times during the semester. Each visit is associated with a set of objectives that develop an understanding of the importance of knowing a patient first as a person and how information on background, education, work history, belief systems, values, and personal needs contributes to that understanding. Following each visit, both team members complete and submit the appropriate assignment form. Completed assignments are discussed in small groups. Students are responsible to schedule their visits with their Senior Mentors to allow adequate time to complete and submit these written assignments **no later than the due dates: 9/27, 10/25 and 11/27**. The appropriate assignment forms are found on Canvas (the University Learning Management System). **Note, the second and third Senior Mentor assignments are due during Host-Defense.**

### ***Professionalism***

Medicine is a Profession, which means it entails unique responsibilities and obligations as well as unique privileges. "Professional identity formation" is an objective as important as learning the sounds and anatomy of the heart, but requires a different set of learning skills. Important among those are integrity, reflection, self- and peer assessment, deliberate practice, and learning for mastery (not grades).

Two essential Professional behaviors that will become a part of your everyday life are founded on respect for patients:

#### **Confidentiality:**

Patients — including Standardized Patients— deserve to be treated with respect. Respect for patients includes keeping all patient information confidential. Patient information may be shared with other health care professionals that have a legitimate, professional "need to know," or with specific family members, friends, or others that have permission from the patient for access to the information.

Be especially conscious about discussions of patients in public places. Even when patient names are not used, the discussion may reveal the patient's identity to others who overhear the discussion. Rather than risk a violation of patient confidentiality, discuss patients only in a private setting and only with individuals who have a legitimate need to know.

Be careful to keep all patient notes, reports and materials confidential. Patient records, should be returned to faculty, destroyed, or kept in a secure place.

Similarly, your classmates deserve to be treated with respect. Information learned about your classmates and their families while in class is considered confidential. You are not free to disclose this material to others without the specific consent of the person.

Violation of confidentiality may result in a [Report of Concern for Unprofessional Behavior](#) and may be referred to the Student Evaluation and Promotion Committee (SEPC). Egregious unprofessional behavior of any variety may result in suspension of the student, a failing grade for the course, and/or referral to SEPC.

### **Professional Attire:**

Medical students, faculty and staff are all ambassadors and representatives of the College of Medicine and of the medical profession. Appearance and behavior should at all times demonstrate respect for the profession and for our patients. The needs of patients must always come first, and any barriers to meeting those needs (including attire, appearance and grooming) must be removed.

Professional attire should be worn in settings where students interact with people from outside the COM, and particularly when interacting with Standardized Patients (SPs) in the CLC, on a "house visit," or when in a preceptor's office or clinic, a hospital or nursing facility. Professional attire should also be worn when patients, guests, or visitors are present in large or small group sessions.

Specific standards for professional attire for [men](#) and for [women](#) are detailed at the end of this document and can always be found on the course Canvas site.

## **Course Content**

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### **Content sequence in Host-Defense:**

Throughout the block, continued development of clinical reasoning and clinical skills focuses on advanced history taking, advanced physical exam maneuvers, and the interpretation of common diagnostic tests relevant to these systems. Standardized patient interactions continue with emphasis on clinical reasoning skills using problem oriented and chronic disease encounters that are not limited to block-specific content.

### **Basic Immunology**

- Immune cells and organs; structure and function
- Immune responses: Innate and Adaptive Immune Responses
- Interpretation of lab tests to assess immune function

### **Immunopathology** (Diseases of the Immune System)

- Immunodeficiency
- Immune tolerance and Autoimmunity
- Inflammation
- Infection

### **Microbiology and Infectious Disease**

- Pathophysiology of infection
- Molecular basis of pathogenesis
- Oncogenic viruses
- Epidemiology

### **Cancer**

- Tumor Invasion and Metastasis
- Tumor immunology
- Clinical aspects of cancer

### ***Required Materials (All required texts are available as ebooks through COM library [page](#))***

[Basic and Clinical Pharmacology](#) (Katzung)

[Bates Guide to Physical Examination and History Taking](#)

[Behavioral Science in Medicine](#) (Fadem)

[Histology: A Text and Atlas With Correlated Cell and Molecular Biology](#) (Ross)

[How the Immune System Works](#) (Sompayrac)

[Physiology](#) (Costanzo)

[Resolving Ethical Dilemmas: A Guide for Clinicians](#) (Lo)

[Robbins and Cotran Pathologic Basis of Disease](#) (Kumar)

[Sherris Medical Microbiology](#) (Ryan)

[Smith's Patient-Centered Interviewing: An Evidence-Based Method](#) (Fortin)

**Additional required readings** will be assigned from a variety of sources. These readings will be provided to you and posted on Canvas when possible.

Additional materials required for clinical sessions

- a. Clinical examination equipment: Each student must purchase and/or have available the following clinical examination equipment: stethoscope with diaphragm, bell and pediatric option, oto/ophthalmoscope, #128 and #512 tuning forks, penlight, reflex hammer, Rosenbaum eye chart and a sphygmomanometer with pediatric, adult, and large adult sized cuffs. Opportunities to purchase this equipment at a discount will be provided prior to orientation. Bring your examination equipment with you to each CLC session.
- b. Also bring the following to each session in the CLC:
  - A watch capable of measuring seconds
  - A pen for writing (blue or black ink)
  - The student's personal mobile device loaded with the appropriate medical software/applications.

## Grading System

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### Assessment Methods

#### Examinations

There will be a mid-block assessment and a final assessment. The midblock assessment contributes 40% and the final assessment 60% to the final average. A portion of each assessment will be comprised of questions from the NBME (National Board of Medical Examiners) question bank. The questions on this customized NBME exam will be selected by course faculty as appropriate assessment of course objectives. Formative quizzes and/or other assessment exercises will be required throughout the block.

#### Written exams

Multiple choice and other question formats are used to assess both content knowledge and application skill (ability to solve problems, demonstration of clinical reasoning, interpretation of images and laboratory results, etc.) on written exams. Exam questions may be drawn from material presented in any activity or assignment, from assigned readings, and from CLC session, in addition to questions from the NBME question bank. Exams are cumulative across the curriculum, i.e., main concepts, content and skills from material presented in prior courses may be included in questions. Written questions may also be presented in context with standardized patient encounters during the examination.

Students must score a cumulative average of  $\geq 70\%$  on all exam questions to pass the written examination component of the course. Students with a written exam average below 70% risk failing **Host-Defense** and being referred to the Student Evaluation and Promotions Committee.

#### Clinical skills exams / Objective Structured Clinical Examination (OSCE)

Formative and summative assessment of clinical skills occurs periodically throughout the pre-clerkship phase. OSCEs are skills-based examinations conducted in the CLC to assess the student's ability to demonstrate clinical skills and behaviors. OSCEs typically consist of several "stations." Each station will require the student to demonstrate one or more clinical skills/behaviors that will be assessed by a trained observer using established performance criteria for that assessment. The OSCE will provide students with feedback on their ability to perform an organized "head-to-toe" physical exam.

Students must score  $\geq 80\%$  on the OSCE in order to pass the course in which the OSCE occurs. Students who do not achieve a score of 80% or higher on the OSCE must remediate these clinical skills.

#### Quizzes

Throughout the course there will be weekly Firecracker quizzes and faculty-written on-line quizzes. These formative tools are "assessments for learning" that allow students to self-assess mastery of the material and learning needs. **Firecracker quizzes are required and must be completed each weekend prior to 8 AM the following Monday.** You will receive an email reminder and link to the quiz directly from Firecracker. **All quizzes are mandatory and must be completed without collaboration or consulting resources** (e.g., textbooks, peers, notes, websites, etc.). Quizzes are important opportunities for students to practice the self-assessment and responsibility for their own learning that are part of Professionalism and Practice Based Learning and Improvement. The results of the quizzes will be tracked as a measure of your progress and to help faculty connect students with resources that will help them succeed in the curriculum.

## Grading

The FSU COM has adopted a pass/fail grading system, which is used in the curriculum for the first and second years (See [Student Handbook](#)). To achieve a grade of Pass in BMS 6041 (**Host-Defense**) a student must earn **a minimum of 192 points as described in the table below**, including **a minimum of 94 points from the assessment categories**. The final grade of a student who accumulates 192 total points but has not achieved the minimum required number of points in any non-assessment category will be at the discretion of the course directors following discussion and any required remedial action.

Category	Criteria for points	Points	MINIMUM REQUIRED	MAXIMUM POSSIBLE	Total possible
<b>ASSESSMENTS (Minimum total points required = 94)</b>					
End of course exam average – includes midblock and final	Overall score of $\geq 75\%$	100 points	90	100	100
	Overall score 70-74.9%	90 points			
	Score $< 70\%$	0 points			
CLC formative assessments	Satisfactory or Remediated	2 points each	4	4	104
<b>NON-ASSESSMENT CATEGORIES (Minimum total points required = 98)</b>					
Weekly FC quiz	On-time submission and score $\geq 65\%$	1 point each	8	9	113
Senior Mentor Visit #2	On-time submission of assignment due <b>10/25, 5 PM</b>	1 points	5	6	119
	Satisfactory completion of assignment	4 points			
	Professional behavior (includes timely scheduling and follow through of meeting)	2 points			
Senior Mentor Visit #3	On-time submission of assignment <b>11/27, 5 PM</b>	1 points	5	6	125
	Satisfactory completion of assignment	4 points			
	Professional behavior (includes timely scheduling and follow through of meeting, and delivery of certificate of appreciation)	2 points			
CLC (W or Th), and special schedule Week 6)	On-time arrival	1 point each	8	9	150
	Professionalism	1 point each	8	9	
	Evidence of preparation (non-assessment weeks)	1 point each	6	7	
CS Small group (Tuesday AM)	On-time arrival	1 point each	5	6	168
	Evidence of preparation	1 point each	5	6	
	Participation/Professionalism	1 point each	6	6	
Basic science Small groups • Opportunistic pathogens <b>11/18</b> • Infectious diseases across the lifespan <b>12/3</b>	On-time arrival	1 point each	5	6	174
	Evidence of preparation	1 point each			
	Participation/Professionalism	1 point each			
Required afternoon attendance sessions:	On-time arrival	1 point each	6	7	181

<ul style="list-style-type: none"> <li>Inflammation PBL <b>11/1</b></li> <li>Vaccine skepticism <b>11/5</b></li> <li>Cases: HIV <b>11/14</b></li> <li>BLS <b>11/26</b></li> <li>Abuse across the lifespan <b>12/2</b></li> <li>Cancer PBL <b>12/10</b></li> <li>Cancer targeted therapy PBL <b>12/12</b></li> </ul>	Participation/Professionalism	1 point each	7	7	188
<b>Assignments</b>					
Interprofessional collaborative skills module: The consultative process	On-time submission <b>due TBA</b>	1 point	4	5	193
	Adequate effort	1 point			
IPCS module	Evidence of participation	1 point			
	On-time submission of summary <b>due TBA</b>	1 point			
IPCS module	On-time submission <b>due TBA</b>	1 point			
CITI Modules	On-time completion <b>due 12/12 3 PM</b>	5 points	4	4	197
PICO assignment	On-time submission <b>due 11/1 5 PM</b>	1 point	2	3	200
	Adequate effort and resubmission if needed	2 points			
Professionalism	General professionalism (includes failure to attend a required session without an excused absence in advance)	<b>-1 point/ concern</b>	9	10	210

Notes:

1. An exam score is the combined results of the NBME and faculty-written components of the exam, with each question carrying equal weight. For example, 80% on a faculty written component with 30 questions and 65% on an NBME component with 50 questions = an exam score of 70.6%  $(0.8 \times 30 + 0.65 \times 50) / 80$ . An end of course exam average between 70% and 74.9% (90 points) is considered a "marginal" pass. Students in this category are encouraged to consult the academic counselors in Student Affairs as well as the course faculty for advice on study and test-taking skills. An end of course exam average < 70% (0 points) will receive a grade of fail\* (see Grading Policy below), which will require remediation or repetition of the course, as proposed by the course directors and determined by decision of the Student Evaluation and Promotion Committee.
2. A student whose performance is <70% (below passing) on any individual exam (see above for definition of exam score) during the course is required to
  - a. Attend the exam review,
  - b. Contact the course directors within 24 hours of that exam review, and
  - c. Meet with the course directors. Students may be asked to complete a Performance Improvement Program, the purpose of which is to assist the student in developing the skills and habits necessary to succeed in the curriculum as well as to address specific performance deficits.
3. Any quiz not completed by the Monday 8 AM deadline will earn 0 points.
4. Attendance and satisfactory participation are required in all small group sessions, all activities scheduled in the CLC, assigned labs, and other activities as determined by the course directors. Unexcused absence from an activity for which attendance is required may require remediation as determined by the course directors. Multiple unexcused absences from and/or late arrivals to required activities will be considered a Professionalism concern and may result in a [Report of Concern for Unprofessional Behavior](#) and referral of the student to the Student Evaluation and Promotions Committee in addition to loss of associated points..



5. Demonstration of the attitudes and behaviors of Medical Professionalism is expected at all times and in all aspects of the course, including adherence to the Honor Code when taking unproctored, on-line quizzes and observation of the dress code. Professionalism concerns may generate a [Report of Concern for Unprofessional Behavior](#).
6. Satisfactory completion and timely submission of all assignments including Senior Mentor home visits and assignments and Interprofessional Collaborative Skills assignments, as determined by the course directors.

### ***Pre-clerkship course grading policy – Year 1:***

#### **Course written exam score:**

All quizzes are mandatory and must be completed without collaboration or consulting resources (e.g., textbooks, peers, notes, websites, etc.).

#### **Course grade:**

If the course average is <70%, a grade of **IR** will be recorded.

- For an M1 course, a student may attempt to remediate the grade during the summer, if approved by the Student Evaluation and Promotion Committee (SEPC). Remediation will be comprised of a modified course, as proposed by the course directors, and passing performance ( $\geq 70\%$ ) on a customized NBME exam. The grade will convert to **Pass** or **Fail** at the end of the remediation block.
- If a student has IR grades in 2 or more M1 courses and the SEPC decision recommends repeating year 1, the IR grades will convert to Fail.

In courses that include an OSCE:

- OSCE score < 80%, if the course written exam score is Pass OR IR (see above) = **IR**

In courses that include Preceptorship (M1 Spring, M2 Fall)

- Unsatisfactory performance in Preceptorship, if the course written exam score is Pass OR IR = **IR**

Unsatisfactory Professionalism, if the course written exam score is Pass OR IR = **IR** or **Fail** depending on the nature of the Professionalism concern, as determined by the SEPC.

**In any course in which the student's performance merits a grade of IR in 2 or more of the above categories (written exam score, OSCE, Preceptorship, Professionalism), the student will be referred to the SEPC, and a grade of Fail may be awarded, as determined by the SEPC.**

### ***Pre-clerkship course remediation policy – Year 1:***

A student who has completed all the assessments and activities of a course and has not achieved a grade of Pass (see above), will be required to repeat the entire content of the course and demonstrate competence through an assessment which is consistent with the original course.

Remediation activities, including final testing, may involve other students.

**Remediation should be comprised of a specific plan for learning and assessment such as the following:**

- Review of course content available on Canvas
- Review of content through modified Firecracker tree identifying topics to be covered each week
- Completion of Firecracker weekly quizzes and practice test
- When a specific deficit is identified (e.g., pharmacology), completion of assignments determined by relevant content experts (e.g., paraphrasing, problem sets, case application, etc.)
- Weekly meetings with course directors and other faculty content experts as determined by the course directors to verify active engagement with content that is resulting in improved learning.
- A passing score ( $> 70\%$ ) on a customized NBME exam (questions selected by the course directors and with a difficulty approximately equivalent to final exam average of the course) and additional faculty-written questions, if determined to be necessary by the course directors.

A student who scores < 70% on the final assessment or does not adequately engage in the remediation process (as monitored by the course directors) will receive a grade of Fail for the course.

### ***Course Evaluation***

Students will have the opportunity to provide constructive feedback through evaluation forms. Evaluations will include both content and facilitation/teaching. Feedback is encouraged at all times on all components of the course and will assist the course directors in providing a timely continuous quality improvement.

# Policies

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## **Americans with Disabilities Act**

Candidates for the M.D. degree must be able to fully and promptly perform the essential functions in each of the following categories: Observation, Communication, Motor, Intellectual, and Behavioral/Social. However, it is recognized that degrees of ability vary widely between individuals. Individuals are encouraged to discuss their disabilities with the College of Medicine's [Director of Student Counseling Services](#) and the FSU Student Disability Resource Center to determine whether they might be eligible to receive accommodations needed in order to train and function effectively as a physician. The Florida State University College of Medicine is committed to enabling its students by any reasonable means or accommodations to complete the course of study leading to the medical degree.

### [The Office of Student Counseling Services](#)

Medical Science Research Building, 2301

Phone: (850) 645-8256 Fax: (850) 645-9452

Students with disabilities needing academic accommodation should:

- (1) register with and provide documentation to the Student Disability Resource Center; and
- (2) bring a letter to the instructor indicating the need for accommodation and what type.

Please note that instructors are not allowed to provide classroom accommodation to a student until appropriate verification from the Student Disability Resource Center has been provided.

This syllabus and other class materials are available in alternative format upon request. For more information about services available to FSU students with disabilities, contact the:

### [Student Disability Resource Center](#)

874 Traditions Way

108 Student Services Building

Florida State University

Tallahassee, FL 32306-4167

Voice: (850) 644-9566

TDD: (850) 644-8504

[sdrc@admin.fsu.edu](mailto:sdrc@admin.fsu.edu)

## **Academic Honor Code**

The Florida State University Academic Honor Policy outlines the University's expectations for the integrity of students' academic work, the procedures for resolving alleged violations of those expectations, and the rights and responsibilities of students and faculty members throughout the process. Students are responsible for reading the Academic Honor Policy and for living up to their pledge to "...be honest and truthful and...[to] strive for personal and institutional integrity at Florida State University." (Florida State University Academic Honor Policy, found at <http://fda.fsu.edu/Academics/Academic-Honor-Policy>)

## **Attendance Policy**

### **University Attendance Policy:**

Excused absences include documented illness, deaths in the family and other documented crises, call to active military duty or jury duty, religious holy days, and official University activities. These absences will be accommodated in a way that does not arbitrarily penalize students who have a valid excuse. Consideration will also be given to students whose dependent children experience serious illness.

The College of Medicine has detailed attendance policies as they relate to each cohort and events that conflict with course schedules. See [FSUCOM Student Handbook](#) for details of attendance policy, notice of absences and remediation.

*Unexcused absence from a scheduled examination or quiz may result in a score of zero (0 %) being assigned for that assessment. Unexcused absence from an activity for which attendance is required (for example, Small Group session) may be considered as an issue of Professionalism. Any unexcused absence may require completion of the Performance Improvement Plan (see Grading section, above).*



# Clinical Learning Center (CLC) Specific Absence Policy

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## ***CLC scheduled activities***

Students with a legitimate reason to miss a scheduled session in the CLC must request an approved absence through Student Affairs through the [online link](#). Students with approved absences will be allowed to reschedule or participate in a make-up session. **Unapproved absences may not be rescheduled or made up.** Repeated unapproved absences may result in a failing grade for the course and a **Report of Concern for Unprofessional Behavior**.

If you know you will be absent from a scheduled CLC session, please complete the absence approval request at least two weeks in advance. For absences that are approved at least two weeks in advance, a change in CLC schedule assignment will be arranged.

One method for addressing a planned and approved absence is to identify a classmate willing to exchange scheduled sessions with you. In this situation, both students (the student with the approved absence and the willing classmate) should send a request via email to the [CLC Team](#) at least two weeks in advance. Students will be notified re: approval of these requests. Please note: Sending a request is NOT equivalent to receiving approval.

Unplanned but excusable absences from CLC sessions are absences due to circumstances *beyond the student's control*. Examples include student illness and/or family death. When such a situation occurs, please contact the [CLC Team](#) **as soon as possible**, to inform them that you will not be present. Then, submit an absence request to Student Affairs through the [online link](#). Student Affairs will classify the absence as excused or unexcused.

If the absence qualifies as an “excused” absence, the student must contact the [CLC Team](#) to develop a plan to make up the missed session. These sessions may require the presence of an SP and / or CLC faculty member. Any excused absence will not impact the student's grade.

Unexcused absences generally involve circumstances *within the student's control*. Examples of unexcused absences include the student who forgets about a scheduled CLC session, the student who skips the session to study, and/or any absence where an able student fails to contact Student Affairs and the [CLC Team](#) to inform them that the student will not be present for the session.

If the absence is unexcused, the clinical skills director will discuss the situation with the student. Any further unexcused absences will result in the notification of Student Affairs, a **Report of Concern for Unprofessional Behavior**, and referral of the student to the Student Evaluation and Promotions Committee. Students with unexcused absence(s) will still be responsible for the missed material in future OSCE's and written examinations.

## ***Objective Structured Clinical Examination (OSCE)***

If a student knows he/she will not be able to participate in the formative OSCE, he/she should complete and submit the appropriate forms to Student Affairs, and, if within 24 hours of the time he/she is scheduled for the OSCE, contact the [CLC Team](#). If the absence is excused by Student Affairs, the student will receive an “I” (incomplete) grade and be required to complete a make-up OSCE at a designated time after the course has ended.

Any excused absence—whether planned or unplanned—will not impact the student's grade.

Any absence that does not qualify as an excused absence per Student Affairs is an unexcused absence. These generally are due to circumstances within the student's control. Examples of unexcused absences include the student who forgets about an OSCE session, the student who skips an OSCE to study for an exam and/or any absence where an able student fails to follow the procedures above if they are not able to participate in the OSCE. An unexcused absence from the formative OSCE will result in a **Report of Concern for Unprofessional Behavior**.

## **Professional Attire**

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Professional attire consists of clothes consistent with community norms for physicians. Length and fit of all attire is to be in accordance with that acceptable for physicians in a professional healthcare environment; oversized, undersized, tight-fitting, seductive, and/or revealing clothing is not acceptable.

**Unacceptable attire includes, but is not limited to**, the following: jeans of any style or color, denim material or "denim look" material, sheer or see-through fabrics, strapless, low-necked or exposed chest clothing, midriff-baring clothes, backless clothing, spaghetti straps, cut-offs, tank tops, halter tops, crop tops, tube tops, sun dresses, crop pants, shorts, pedal pushers, hip hugger pants, stirrup pants, any item constructed mainly of spandex, sweat suits (sweat pants/sweat shirts) warm-up suits, overalls, hats, and any clothing that advertises.

Examples of professional attire in Tallahassee are: slacks or skirt and a collared shirt or blouse or sweater; conservative length dress (dress or skirt edge should rise no higher than 2" above the top of the knee-cap (patella) during all clinical care and training maneuvers including sit down patient-clinician conversations; dress or skirt should not be tight fitting)..

Ties may be either required or forbidden in some clinical situations.

Footwear may include dress or casual closed toe shoes (no sports shoes, no sandals, no open-toe footwear). Heels more than 3" in height are never appropriate in clinical settings.

When working in the CLC during Foundations of Medicine 1, clean scrub clothes may also be worn when patients are not present. Note: **CLC scrubs must be kept separate from any scrub outfits worn in the anatomy lab**. On those occasions when students are examining each other, you will be informed of the appropriate apparel for that session.

Consult your supervisor to clarify expectations for student attire in any ambiguous or new situations.

**Professional appearance:** Long hair must be pulled back and secured. Facial hair must be neatly groomed. If possible, all tattoos should be covered by clothing. No visible body piercing except a single piercing in each ear. No large earrings or loose jewelry. Fingernails must be trimmed. If nail polish is worn, it should not be a distracting color. No strong perfume or other scented products. In compliance with OSHA regulations, closed-toed shoes are required in all clinical settings—including the CLC as well as the anatomy lab.

The established "norms" of certain clinical settings may modify these standards for professional attire, but any variations in professional attire must be approved by the student's supervisor. Consult your supervisor to clarify expectations for student attire in any ambiguous or new situations.

For curricular activities where guests or patients are not present: Unacceptable attire includes, but is not limited to, the following: sheer or see-through fabrics, strapless, low-necked or exposed chest clothing, midriff-baring clothes, backless clothing, spaghetti straps, cut-offs, tank tops, halter tops, crop tops, tube tops, or extremely short shorts.

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