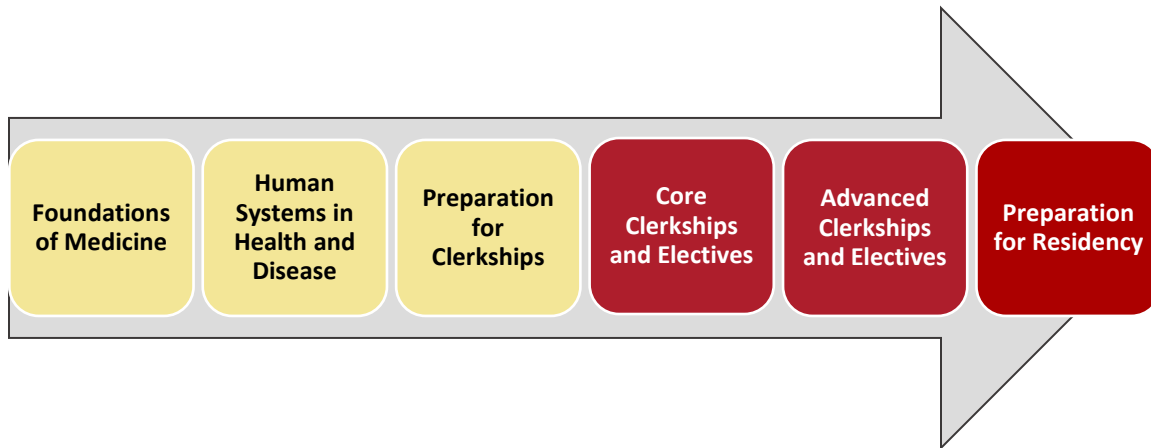


MEDICINE



BMS 6030 **Foundations of Medicine 2:** **Molecules to Mechanisms**

Florida State University
College of Medicine



Table of Contents

Table of Contents	2
Faculty and Staff	3
Course Directors	3
Faculty	3
Course Support	3
Overview	4
Course Goals	4
Learning Objectives	4
Course Format	4
Senior Mentor Program	5
Professionalism	5
Course Objectives and Education Program Objectives	6
Course Content	9
Grading System	10
Assessment Methods	10
Grading for Medical Students	11
Preclerkship course grading policy	11
Pre-clerkship course remediation policy:	12
Grading for BRIDGE Students	12
Course Evaluation	13
Policies	13
Americans with Disabilities Act	13
Academic Honor Code	13
Attendance Policy	13
Clinical Learning Center (CLC) Specific Absence Policy	14
CLC scheduled activities	14
Objective Structured Clinical Examination (OSCE)	14
Professional Attire	15

Faculty and Staff

Course Directors

Gail Galasko, Ph.D.
Professor, Biomedical Sciences
Office: 3350-D
Phone: 645-6449
Email: gail.galasko@med.fsu.edu

Jamila Horabin, Ph.D.
Associate Professor, Biomedical Sciences
Office: 3300-G
Phone: 645-2820
Email: jamila.horabin@med.fsu.edu

Clinical Skills Director

Niharika Suchak, M.D.
Associate Professor, Geriatrics
Office: 4311
Phone: 644-2372
Email: niharika.suchak@med.fsu.edu

Director, Clinical Learning Center (CLC)

Debra Danforth, M.S., APRN
Associate Professor, Clinical Sciences
Office: G129-M
Phone: 645-7123
Email: debra.danforth@med.fsu.edu

Faculty

John Agens, MD
Nighet Ahmed, MD
Patricia Babcock, PhD
Christie Alexander, MD
Irene Alexandraki, MD
Les Beitsch, MD, JD
Joedrecka Brown-Speights, MD
Robert Campbell, MD
Tyra Dark, PhD
Jose Diaz, MD, PhD
Kerwyn Flowers, DO
Joe Gabriel, PhD
Gail Galasko, PhD
Mary Gerend, PhD
Rob Glueckauf
Samantha Goldfarb, PhD
Lisa Granville, MD

Jeffrey Harman, PhD
Suzanne Harrison, MD
Mel Hartsfield, MD
Shermeeka Hogans-Matthews, MD
Jamila Horabin, PhD
Paul Katz, MD
Heidi Kinsell, PhD
Susan LaJoie, APRN, DrPH
Cathy Levenson, PhD
David Meckes, PhD
Linda Minnock, MD
Karen Myers, APRN
Michael Nair-Collins, PhD
Mary Norton, MD
Mike Overton, PhD
James Olcese, PhD
Graham Patrick, PhD

Alice Pomidor, MD
Raed Rizkallah, PhD
George Rust, MD, MPH
Stephen Sandroni, MD
Charles Saunders, PhD
Anthony Speights, MD
Niharika Suchak, MD
Michael Sweeney, MD
Robert Tomko, PhD
Phillip Treadwell, PharmD
Greg Todd, MD, JD
Greg Turner, EdD, MPH
Dan Van Durmer, MD, MPH
Debra Wagner, MD
Yanchang Wang, PhD
Robert Watson, MD

Course Support

curriculum.support@med.fsu.edu

Cesar Arango
Office: Suite 2200-N
Phone: 645-2905

Margie Norman
Office: Suite 2200-P
Phone: 645-4645

Sharika Brown
Office: Suite 2200-R
Phone: 644-2907

Overview

Course Goals

Molecules to Mechanisms – is the second **Foundations of Medicine** block of the FSU COM Curriculum for the 21st century. It complements **Foundations of Medicine 1: Organization and Structure** – to provide a foundation of core concepts, knowledge and vocabulary of basic, behavioral and clinical science as well as the fundamental skills of the physical exam and medical interviewing on which to build throughout the preclerkship curriculum. COM mission-based domains are underscored in specific objectives that address important issues in geriatric, rural and other underserved populations, such as the factors that impact medication dosage and effectiveness in elderly patients. Curricular themes such as cultural issues, ethics, and public health are developed as essential components in case studies – for example, attitudes, access, and consequences of dietary choices across the lifespan, beginning prior to conception and continuing through old age – and in clinical encounters with standardized patients. Students completing **Molecules to Mechanisms** will have a solid foundation of cellular and molecular principles in health and disease and awareness of their impact on individuals, families, society, and the health care system.

Learning Objectives

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

The global course objectives are:

1. Describe the normal structure and function of the basic cell and tissue types of the body at the tissue, cellular, subcellular, and molecular levels including mechanisms of genetic transmission and gene expression, cell proliferation, energy production and use, and cellular metabolism, and correlate structures and mechanisms with human function.
2. Describe the mechanisms of cell communication including cell signaling, excitable membranes, receptor ligand binding, and second messenger cascades.
3. Describe the mechanisms of cellular adaptation and response to injury and anticipate the outcomes of these changes.
4. Describe the normal structure and function of the autonomic nervous system (ANS).
5. Describe the basic characteristics of microbial pathogens and the basic cellular mechanisms through which they impact normal cell structure and function and lead to clinical consequences.
6. Demonstrate an understanding of biostatistics concepts and their application in health care, the ability to interpret and appraise the validity of results and study design in the medical literature, and the use of biostatistics in evidence-based medicine.
7. Describe the basic concepts of pharmacokinetics and pharmacodynamics, including factors that influence drug absorption, distribution, excretion, and dose response, and apply this knowledge to the selection of pharmacologic treatment options, including dosage adjustments, and their consequences.
8. Demonstrate the ability to organize and conduct a medical encounter using the biopsychosocial model of health and illness and patient-centeredness across the lifespan, including attention to the social determinants of health and the impact of patient and physician culture on health disparities.
9. Demonstrate the habits of life-long learning – the identification of knowledge gaps and application of strategies to find and interpret information to address those gaps.
10. Demonstrate professional behavior in interactions with peers, guests, patients, staff, and faculty.

Course Format

Foundations of Medicine 2: Molecules to Mechanisms provides a foundation in five fundamental areas of biomedicine (cell biology and molecular mechanisms, cell signaling and homeostatic control, microbiology, autonomic nervous system, and general principles of pharmacology) as well as important concepts of social and behavioral science, including biostatistics and epidemiology, social determinants of health, and health systems. Clinical skills for gathering information through the medical interview are added to the physical exam skills developed during **Foundations of Medicine 1**. The course 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 learning, where students consolidate their understanding and identify gaps in understanding as a session evolves, by answering questions and solving problems individually and through peer discussion, with immediate input of faculty expertise. Pre-class preparation primes 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 course learners will continue to develop their clinical skills and clinical reasoning during individual SP encounters in the CLC. Building on the physical exam skills learned in **Foundations of Medicine 1: Organization and Structure**, students develop an understanding of the organization, content and performance of the medical interview. Emphasis is placed on communication skills using the biopsychosocial model of health and illness and patient-centeredness across the lifespan. Students experience the essential integration of basic, behavioral and clinical science knowledge and concepts in the successful patient encounter.

Senior Mentor Program (attendance required for Medical Students)

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: 10/1, 11/1 and 12/1**. The appropriate assignment forms are found on Canvas (the University Learning Management System). **Note, the first Senior Mentor visit occurs and the first assignment is due during Foundations of Medicine 2.**

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 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

Course Objectives and Education Program Objectives

	Education Program Objectives	Course Objectives	Means of Assessment
1	PATIENT CARE: Provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health		
1.3	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	Demonstrate the ability to organize and conduct a medical encounter using the biopsychosocial model of health and illness and patient-centeredness across the lifespan. Demonstrate the ability to elicit and concisely present an accurate, comprehensive medical history including chief complaint, history of present illness, past medical history, social history, and family history. Demonstrate the ability to select and perform basic maneuvers of the physical exam.	Faculty observation
1.4	Interpret laboratory data, imaging studies, and other tests required for the area of practice	Interpret and calculate the results of clinical tests: <ul style="list-style-type: none">• Sensitivity• Specificity• Positive predictive value (PPV)• Negative predictive value (NPV)	Exams, quizzes; faculty observation in small group sessions
1.5	Counsel and educate patients and their families to empower them to participate in their care, showing consideration for their perspective throughout treatment	Communicate diagnostic information and reasoning, intervention options, and a suggested plan of care with truthfulness, sensitivity and empathy.	Faculty observation

1.9	Provide health care services to patients, families, and communities aimed at preventing health problems or maintaining health	Identify USPSTF preventive health services appropriate for individual seniors based on age, gender, lifestyle and medical conditions.	Senior Mentor assignment
2	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		
2.1	Demonstrate an investigatory and analytic approach to clinical situations	<p>Apply the principles and methods of Evidence-Based Medicine to acquire, appraise, and assimilate new clinical information to improve patient care.</p> <p>Apply basic principles of pharmacology to interpretation of drug information included in advertising</p> <p>Describe methods used in drug advertising to "minimize" information about adverse effects and to increase positive impressions</p>	Exams, quizzes; faculty observation in small group sessions
2.2	Apply established and emerging bio-physical scientific principles fundamental to health care for patients and populations	<p>Describe the role of the nuclear material in the regulation of gene expression, cellular proliferation, bacterial and viral pathogens, and patterns of human inheritance and how this might impact a patient and their family.</p> <p>Describe the relationship between the function of sub-cellular organelles including the endoplasmic reticulum, the Golgi apparatus, and lysosomes to normal processing of cellular proteins and their role in disease processes and the environmental and social conditions that might impact this process.</p> <p>Describe the role of the mitochondria in macronutrient metabolism and energy production, storage, and utilization and the psychosocial impact and importance of proper nutrition across the lifespan.</p> <p>Describe the mechanisms of cell communication and cellular responses to injury.</p> <p>Describe the structure and function of the basic tissue types in the human body and how this impacts human function.</p> <p>Describe microorganisms responsible for infectious disease and how their manifestation may impact an individual and their family across the lifespan.</p> <p>Compare and contrast types of cell adaptation and injury in terms of mechanisms and outcomes for the patient and their family.</p> <p>Analyze the similarities and differences between the normal and abnormal structures and functions of the autonomic nervous and endocrine systems, breast and male and female reproductive organs.</p> <p>Describe the basic concepts of pharmacokinetics including factors influencing drug absorption, distribution and excretion including ionization of drugs.</p> <p>Describe the basic concepts of pharmacodynamics including factors involved in dose response and the importance of these in adjusting the dosage to the patient.</p>	Exams, quizzes; faculty observation in small group sessions

		Describe the changes in drug metabolism across the lifespan. Describe steps used in the testing of a drug for FDA approval.	
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	Apply elementary concepts of biostatistics and study design to understand medical literature.	Exams, quizzes; faculty observation in small group sessions
3	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		
3.2	Set learning and improvement goals	Identify at least one personal performance improvement strategy for the small group setting	Self-assessment
3.3	Identify and perform learning activities that address one's gaps in knowledge, skills or attitudes	Demonstrate the habits of life-long learning – the identification of personal knowledge gaps and application of strategies to find and interpret information to address those gaps.	Self-assessment, small group exercises
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	Using Epocrates Interaction Check tool, identify drug-drug interactions and assess the level of concern. Identify recommended immunizations for patients based on age, gender, occupation, medical condition.	Small group exercises; Senior Mentor assignment
4	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		
4.1	Communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds	Demonstrate use of communication skills (e.g. open ended questions, silence, reflection) and associate communication strategies with particular tasks (e.g. using silence to elicit the patient's view). Demonstrate the ability to communicate effectively with a patient and his/her family using culturally appropriate verbal and non-verbal skills to build trust and rapport between the student and patient. Demonstrate respect, empathy, compassion, responsiveness and concern regardless of the patient's problems, personal characteristics.	Faculty observation
4.2	Communicate effectively with colleagues within one's profession or specialty, other health professionals, and health related agencies	Apply medical record review criteria to assess the quality of documentation of a PMH section of a progress note.	Senior Mentor assignment
5	PROFESSIONALISM: Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles		
5.1	Demonstrate compassion, integrity, and respect for others	Communicate diagnostic information and reasoning, intervention options, and a suggested plan of care with truthfulness, sensitivity and empathy. Demonstrate professional behavior in all interactions with peers, patients, and faculty.	Faculty observation; SP evaluation
5.3	Demonstrate respect for patient privacy and autonomy	Maintain confidentiality for patients who participate in the course	Senior Mentor program
5.4	Demonstrate accountability to patients, society and the profession	Complete all required activities in a timely fashion.	Attendance, assignments
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	Demonstrate respect, empathy, compassion, responsiveness and concern regardless of the patient's problems, personal characteristics	Senior Mentor program

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	Maintain confidentiality for patients who participate in the course. Describe some aspects of the current system for protecting human subjects, including informed consent and institutional review boards (IRB). Define the concept of "conflict of interest"	Assignments; faculty observation; peer and self-evaluation
8	PERSONAL AND PROFESSIONAL DEVELOPMENT		
8.6	Provide leadership skills that enhance team functioning, the learning environment, and/or the health care delivery system	Describe at least 2 successes and 2 specific suggestions for improvement of the small group learning environment.	Self-assessment
9	FSU COM MISSION: Demonstrate responsiveness to community needs – especially elder, rural, minority and underserved populations		
9.1	Describe the social determinants of health, and identify how they create opportunities for and barriers to wellness for underserved populations.	Describe the social determinants of health, and identify how they create opportunities for and barriers to wellness for underserved populations.	Senior Mentor program

Course Content

Content sequence in Molecules to Mechanisms :

Throughout the course, students continue to develop their clinical skill set with a focus on the medical interview and taking and documenting a medical history. Basic physical exam skills learned in Foundations of Medicine 1: Organization and Structure, are maintained and refined. Biostatistics, study design and critical reading of literature are taught throughout the course.

Cell Biology and Molecular Mechanisms

- Cell types and structure
- DNA, inheritance, and human genetics
- Cellular organelles, protein, glucose and fat metabolism and storage
- Patient-centered interviewing, genetic screening and counseling

Cell Signaling and Homeostatic Control

- Receptor – ligand interaction
- Homeostatic control of arterial blood pressure, water balance, and body temperature
- Cellular response to injury

Microbiology

- Bacterial, viral and fungal structure and replication
- Gram positive, Gram negative and Gram indeterminate bacteria
- Microbial detection methods
- Sterility

Autonomic Nervous System

- ANS subdivisions
- Neurotransmitters: cholinergics and adrenergics

General Principles of Pharmacology

- Pharmacokinetics, absorption, distribution, excretion, drug metabolism, changes with age
- Pharmacodynamics, agonists and antagonists, potency and efficacy, dose – response
- Drug development and evaluation
- Patient-centered interviewing, medication reconciliation, therapeutic adherence, patient-specific dosage

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)

[Medical Biochemistry: An Illustrated Review](#) (Panini)

[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)

[Thompson & Thompson Genetics in Medicine](#) (Nussbaum)

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

Assessment Methods

Examinations

There will be a mid-block assessment and a final assessment. The mid-block 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 the customized NBME exams will be selected by course faculty as appropriate assessment of course objectives. Formative quizzes and other assessment exercises will be required throughout the course.

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 sessions, 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 $\geq 70\%$ to pass the written examination component of the course. Students with a written exam average below 70% risk failing **Foundations of Medicine 2: Molecules to Mechanisms** and being referred to the Student Evaluation and Promotions Committee.

Clinical skills exams

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. An OSCE remediation plan must be determined prior to the beginning of the next semester. An OSCE is part of the final assessment for **Foundations of Medicine 2: Molecules to Mechanisms**. It will emphasize the medical

interview and history. Students scoring below 80% who are unable to successfully remediate these deficits will receive a grade of "Fail" for **Foundations of Medicine 2: Molecules to Mechanisms** and be referred to the Student Evaluation and Promotions Committee.

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 their unique 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.). Although they are formative, quizzes should be taken seriously; **a quiz average $\geq 70\%$ will contribute 2 points to the course exam average.** Any quiz not completed within the designated time will receive a score of 0. 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 for Medical Students

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 6030 (**Foundations of Medicine 2: Molecules to Mechanisms**) a student must meet all of the following requirements:

1. A final exam average $\geq 70\%$. The mid-block assessment contributes 40% and the final assessment 60% to the final average. A quiz average $\geq 70\%$ will contribute 2 points to the written exam score. If the course average is $< 70\%$, the final course grade will be
 - Fail when both of 2 written exams are $< 70\%$
 - IR when one of the written exams is $< 70\%$ and one is $\geq 70\%$A grade of Fail or IR 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 written exam 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.
3. Timely completion of all quizzes. Any quiz not completed within the designated time will receive a score of 0. A quiz average $\geq 70\%$ will contribute 2 points to the course exam average.
4. A student who achieves an overall passing score ($\geq 70\%$) but has demonstrated a significant deficit in one or more content areas will be required to develop and complete a Performance Improvement Plan in consultation with the course directors. The purpose of the Plan is to assure the student has the requisite knowledge base to succeed in subsequent courses in the curriculum.
5. A score $\geq 80\%$ on the OSCE. Students who do not achieve a score of 80% or higher on the OSCE but who have successfully completed all other components of the course will receive a grade of Incomplete (I) for the course and must remediate these clinical skills. This remediation must be coordinated with the block directors and the CLC director, and must be completed prior to the beginning of the spring semester. Students scoring below 80% who are unable to successfully remediate will receive a grade of Fail for Foundations of Medicine 2 and will be referred to the Student Evaluation and Promotion Committee.
6. Attendance and satisfactory participation in all required sessions, all activities scheduled in the CLC, completion of all formative quizzes, 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 required activities and/or late or missed assignments 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.
7. Demonstration of the attitudes and behaviors of Medical Professionalism in all aspects of the course, including adherence to the Honor Code when taking unproctored, on-line quizzes. Professionalism concerns may generate a [Report of Concern for Unprofessional Behavior](#) and may result in receiving a grade of fail in the course.
8. Satisfactory completion of all assignments, including the Senior Mentor home visits and assignments, as determined by the course directors.

Preclerkship course grading policy

In a course with 2 written exams:

- Failure (< 70%) of 2 written exams = **Fail**
- Course written exam score < 70%, including only 1 exam failure (< 70%) = **IR**

In a course with only 1 written exam:

- Course written exam score < 70% = **IR**

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 Student Evaluation and Promotions Committee (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:

A student who has completed all the assessments and activities of a course and has not achieved a passing score (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 ($\geq 70\%$) 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.

Grading for BRIDGE Students (Graduate Program)

BRIDGE students will be held to the same requirements listed above, with exception of participation in the Senior Mentor Program. In addition, they will be assigned a letter grade (A, B+, B, B-, C or F) according to the scale below, based on the average of all written exams. Note, students in the BRIDGE program must achieve a grade of B- or better ($\geq 70\%$) in all required courses to remain in the [program](#). Grades of C may be remediated, at the discretion of the Course Directors in consultation with the Director of the Bridge Program and with the approval of the Bridge Committee.

Grading Scale for BRIDGE Students in Foundations of Medicine 2: Molecules to Mechanisms

- A = $\geq 87\%$
- B+ = 82 – 86.9%
- B = 76 – 81.9%
- B- = 70 – 75.9%
- C = 65 – 69.9%
- F = < 65%

Course Evaluation

Students will have the opportunity to provide constructive feedback through online evaluation surveys. 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

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

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](#))

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

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 [Ms. Danforth](#) 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 [Ms. Danforth](#) **as soon as possible**, to inform her 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 [Ms. Danforth](#) 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 [Ms. Danforth](#) 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 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 [Ms. Danforth](#). 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 will result in failure of both the OSCE and the course during which it occurs.**

Professional Attire

Professional attire consists of clothes consistent with community norms for physicians. Examples of these norms in Tallahassee are: no jeans, seductive, revealing or tight-fitting clothes, sheer or see-through fabrics, strapless, low-necked or midriff-baring clothes, shorts, sweats, hats, or open-toed shoes.

For men, professional attire consists of slacks, a collared shirt and dress or casual shoes (no sport shoes or sandals). Ties may be either required or forbidden in some clinical situations.

For women, professional attire consists of slacks or a conservative length dress or skirt with a blouse or sweater. Skirt edge should rise no higher than 2" above the top of the knee during all clinical care and training maneuvers and should not be tight-fitting. Heels more than 3" in height are never appropriate in clinical settings.

For both men and women, A white lab coat is required. On those occasions when students are examining each other, you will be informed of the appropriate apparel for that session.

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.

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.