

 FLORIDA ATLANTIC UNIVERSITY	COURSE CHANGE REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Integrated Medical Science College Charles E. Schmidt College of Medicine		
Current Course Prefix and Number MDI 7600		Current Course Title Surgery Sub-Internship	
<i>Syllabus must be attached for ANY changes to current course details. See <u>Guidelines</u>. Please consult and list departments that may be affected by the changes; attach documentation.</i> None			
Change title to: Change prefix From: To: Change course number From: To: Change credits* From: To: Change grading From: To: <small>*Review Provost Memorandum</small>		Change description to: Change prerequisites/minimum grades to: Change corequisites to: Change registration controls to: <small>Please list existing and new pre/corequisites, specify AND or OR and include minimum passing grade.</small>	
Effective Date <small>(TERM & YEAR)</small>		Terminate course List final active term Fall 2017	
Faculty Contact/Email/Phone			
Approved by Department Chair _____ <i>J. OUSLANDER</i> College Curriculum Chair _____ <i>Michelle Little-Kanunich</i> College Dean _____ <i>Theresa...</i> UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____		Date _____ <i>1/12/18</i> _____ <i>1/12/18</i> _____ <i>1/12/18</i> _____ _____ _____ _____	

Email this form and syllabus to UGPC@fau.edu one week before the UGPC meeting.

Preliminary 2018-2019 University Catalogue

COURSE DESCRIPTIONS LINK

Charles E. Schmidt College of Medicine

Course Descriptions

[Link to Charles E. Schmidt College of Medicine Programs](#)

Graduate Courses

Foundations of Medicine 1 (BMS 6015) 12 credits

Prerequisite: Medical students only

Provides students with an understanding of the fundamental principles necessary to become a competent, compassionate, informed, professional and conscientious physician with unique opportunities for direct patient care. Assists students in developing the knowledge, skills, attitudes and behaviors needed to interview and examine the patient, to answer clinical questions, to understand the importance of patient advocacy and disease prevention, to explore the barriers to healthcare and to instill the foundation for the ethical and legal framework of patient care.

Foundations of Medicine 2 (BMS 6016) 13 credits

Prerequisites: Medical students only; BMS 6015

A continuation in the Foundations of Medicine series. Provides students with an understanding of the fundamental principles necessary to become a competent, compassionate, informed, professional and conscientious physician with unique opportunities for direct patient care. Assists students in developing the knowledge, skills, attitudes and behaviors needed to interview and examine the patient, to answer clinical questions, to understand the importance of patient advocacy and disease prevention, to explore the barriers to healthcare and to instill the foundation for the ethical and legal framework of patient care.

Foundations of Medicine 3 (BMS 6017) 21 credits

Prerequisites: Successful completion of the first year of the medical program; BMS 6015, BMS 6016

A continuation in the Foundations of Medicine series. Provides students with an understanding of the fundamental principles necessary to become a competent, compassionate, informed, professional and conscientious physician with unique opportunities for direct patient care. Assists students in continuing to develop the knowledge, skills, attitudes and behaviors needed to interview and examine the patient, to answer clinical questions, to understand the importance of patient advocacy and disease prevention, to explore the barriers to healthcare and to instill the foundation for the ethical and legal framework of patient care.

Neuroscience and Behavior (BMS 6020) 10 credits

Prerequisite: Medical students only

Provides the basic concepts and vocabulary in the areas of neuroanatomy, neurophysiology, sensory systems, neurochemistry, neuropharmacology, neuropathology, neurology and

GRADUATE COLLEGE

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psychiatry. Uses an integrated approach combining lectures, problem-based learning (PBL) and anatomy laboratory instruction. The PBL sessions in small groups provide the fundamental knowledge of common neurological and psychiatric disorders, complemented by lectures for specific diseases. The presentation of the neuroanatomy component emphasizes correlations with clinical cases and leads to the localization of brain lesions. The instruction in gross anatomy of the head and neck are integrated with clinical correlates.

Fundamentals of Biomedical Science (BMS 6031) 21 credits

Prerequisite: Medical students only

Provides students with a broad function in critical biomedical science subject areas, including biochemistry, molecular biology, cell biology, genetics, pharmacology, pathology, physiology, histology, anatomy and embryology.

Synthesis and Transition (BMS 6405) 4 credits

Prerequisite: Successful completion of all previous courses in the M.D. program

A three-week course at the beginning of Year 3 designed to help students synthesize knowledge and prepare for a smooth transition to the Year 3 clerkships. The course includes (1) a Case Seminar, a complex multidisciplinary PBL/IQ case that focuses on differential diagnosis and treatment decisions; (2) Sim center and interactive work on clinical reasoning and clinical skills building; and (3) orientation to the Year 3 clerkships.

Pathophysiology and Therapeutics 1 (BMS 6541) 7 credits

Prerequisite: BMS 6020

Provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology and physiology of the gastrointestinal and hepatic systems and human nutrition, including normal nutrition and diagnosis and management of common nutritional disorders. Uses an integrated approach by combining lectures, problem-based learning and simulated laboratory instruction.

Pathophysiology and Therapeutics 2 (BMS 6542) 13 credits

Prerequisite: BMS 6541

An 11-week course in the fall semester of year two. Provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology and physiology of the cardiovascular system, the respiratory system and related components of the hematologic system. Uses an integrated approach by combining lectures, problem-based learning and simulated laboratory instruction.

Pathophysiology and Therapeutics 3 (BMS 6543) 10 credits

Prerequisites: BMS 6541 and 6542

A nine-week course in the fall semester of year two. Provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology and physiology of the renal system, the endocrine system, the reproductive system and related components of the hematologic system. Uses an integrated approach by combining lectures, problem-based learning and simulated laboratory instruction.

Pathophysiology and Therapeutics 4 (BMS 6544) 7 credits

Prerequisites: BMS 6541, 6542, 6543

A six-week course in the spring semester of year two. Provides the basic concepts and vocabulary in the areas of the anatomy, chemistry, histology, microbiology, pathology, pharmacology and physiology of the immunologic system, mechanisms of host-defense, infectious disease, including public health aspects, and common hematologic malignancies. Revisits and expands on concepts of immunity and infection and includes diseases of the dermatologic system and the eye. Uses an integrated approach by combining lectures, problem-based learning and simulated laboratory instruction.

Family and Community Health Sciences Longitudinal Integrated Clerkship (MDC 7011) 10 credits

Prerequisite: Enrolled in the third year of the medical program

FCHS is organized as a Longitudinal Integrated Clerkship (LIC). It has 24 instructional weeks and is made up of 21 weeks of clinical experiences and didactic instruction in three graded integrated clerkships and six disciplines that are not graded, plus two weeks for assessments and one week of orienting activities. FCHS includes experiences in obstetrics and gynecology, pediatrics and psychiatry. Students receive separate clerkship grades in these three disciplines. It also includes experiences in anesthesia, critical care, emergency medicine, neurology, pathology and radiology.

Medical and Surgical Sciences Longitudinal Integrated Clerkship (MDC 7012) 10 credits

Prerequisite: Enrolled in the third year of the medical program

Medical and Surgical Sciences, organized as a Longitudinal Integrated Clerkship (LIC), has 24 instructional weeks and is made up of 22 weeks of clinical experiences and didactic instruction in three graded integrated clerkships and six disciplines that are not graded, plus one week for assessments and one week of orienting activities. Includes experiences in medicine, surgery and geriatrics/palliative care, as well as experiences in anesthesia, critical care, emergency medicine, neurology, pathology and radiology.

Community and Preventative Medicine Clerkship (MDC 7120) 14 credits

Prerequisite: Enrolled in the third year of the medical program

Throughout the third year of medical school, within the Community and Preventive Medicine Clerkship, students are assigned one-on-one to a primary care provider, either an internist or a family physician in the community. The goal of this longitudinal preceptor experience is for students to build their own panel of patients, developing a relationship over time and following patients to different clinical experiences that are part of their medical care.

~~Geriatric Clerkship (MDC 7140) 7 credits~~

~~Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam~~

~~Creates a humane environment that fosters respect, personal integrity, service orientation and a sense of well-being for older patients.~~

Obstetrics and Gynecology Clerkship (MDC 7180) 20 credits

Prerequisite: Enrolled in the third year of the medical program

Consists of an inpatient labor and delivery experience, an inpatient gynecologic surgery experience, an outpatient preceptor-based experience (including sessions in an outpatient ob/gyn office), and a subspecialty experience (reproductive endocrinologist, maternal-fetal specialist, uro-gynecologist, gynecologic oncologist). Provides opportunity for students to observe and gain basic knowledge in the care of both obstetrics and gynecology patients in inpatient and outpatient settings. Under supervision by attendings, students are involved in every aspect of the patient's care.

Internal Medicine Clerkship (MDC 7200) 25 credits

Prerequisite: Enrolled in the third year of the medical program

Students develop a comprehensive approach to the evaluation and care of the adult medical patient, continuing to improve their ability to obtain, record, analyze and communicate clinical information. Each student gains an awareness of the knowledge, skills, values and attitudes that internists strive to acquire and maintain throughout their professional lives. Students have supervised responsibility for patient care, learning to integrate clinical knowledge with practical experience.

Critical Care Clerkship (MDC 7340) 7 credits

Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam

The goal of the clerkship is to approach the ICU/CCU as an applied physiology laboratory, emphasizing normal human physiology, the pathophysiology of disease and the scientific underpinnings of diagnosis and therapeutic intervention.

Pediatrics Clerkship (MDC 7400) 20 credits

Prerequisite: Enrolled in the third year of the medical program

Provides medical students with the knowledge and clinical experience necessary to develop basic skills in the evaluation and management of health and disease in infants, children and adolescents. An introduction to the care of children emphasizing those aspects of pediatrics that should be understood and mastered by all physicians, regardless of ultimate career goals.

Surgery Clerkship (MDC 7600) 25 credits

Prerequisite: Enrolled in the third year of the medical program

An intense clinical experience that introduces students to the basic principles of surgery. Equips students with the knowledge and skills relevant to surgical management that all physicians should possess. Aims to emphasize patient responsibility and professional behavior as essential qualities for young physicians to develop.

Emergency Medicine Clerkship (MDC 7710) 7 credits

Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam

Introduces students to the emergency physician's unique approach to clinical problems. Teaches students to assess the acute presentation of disease and develop skills in initial management and stabilization of patients with a wide variety of illness severity.

Clinical Neurology Clerkship (MDC 7800) 7 credits

Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam

A patient-centered area of medicine dedicated to understanding, studying, diagnosing, managing and treating the diseases of the central, peripheral (nerves and muscles) and autonomic nervous systems.

Psychiatry Clerkship (MDC 7830) 20 credits

Prerequisite: Enrolled in the third year of the medical program

Part of the six-month longitudinal integrated clerkship experience (FCHS). Divided into two sections: A four-week inpatient experience and an integrated outpatient/subspecialty experience. Designed to help students develop clinical skills and a knowledge base in psychiatry. In addition to the inpatient, outpatient, C-L Substance Abuse and off-campus experiences, students attend regular didactic lectures.

Elective Rotation (MDE 8011) 6-12 credits

Prerequisite: Enrolled in the fourth year of medical program

Fourth year electives accommodate the diverse educational needs of medical students. They offer students the opportunity to explore diverse options in the field of medicine and provide them the opportunity to further their medical knowledge, skills and attitudes.

Transition to Residency (MDE 8067) 6 credits

Prerequisite: Completion of all other fourth year courses and requirements

This two-week capstone course is offered in March at the end of the 4th year. Prepares students to work effectively as interns, residents and practicing physicians. It helps students to develop the knowledge, attitude and skills necessary to be successful in their professional lives.

~~Internal Medicine Sub-Internship (MDI 7200) 14 credits~~

~~Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam~~

~~A sub-internship in internal medicine that represents an extension of the year three course and a transition to post-graduate medical training after obtaining the M.D. degree.~~

~~Surgery Sub-Internship (MDI 7600) 14 credits~~

~~Prerequisites: Medical students only; must have successfully passed the MBME Step 1 exam~~

~~Builds upon the skill and knowledge base of the third-year clerkship by placing the fourth-year student on busy surgery service as an acting intern.~~

Acting Internship Rotation (MDI 8010) 12 credits

Prerequisite: Enrolled in the fourth year of the M.D. program

The overall goal of this course is for the student to provide care for a group of patients, applying knowledge and clinical reasoning to medical practice. These rotations provide the opportunity for the student to assume a high level of responsibility for patient care.

Selective Rotation (MDS 8011) 12 credits

Prerequisite: Enrolled in the fourth year of medical program

Selective rotations explore the diversity of medical fields and increase the educational experience, providing hands-on patient care through the scope of multiple specialties. Students

evaluate patients under supervision and have meaningful patient care experiences in the specialties they choose.

ACADEMIC PROGRAMS LINK

Charles E. Schmidt College of Medicine

[Doctoral Programs](#)

[Master's Program](#)

[Certificate Program](#)

[Link to Course Descriptions for the Charles E. Schmidt College of Medicine](#)

The Charles E. Schmidt College of Medicine's [mission as a community-based medical school is to advance the health and well-being of our community by training future generations of humanistic clinicians and scientists and translating discovery to patient-centered care](#) is dedicated to the education of physicians and scientists to meet the healthcare needs of Florida, to conduct biomedical research to advance knowledge, to improve patient care and to serve patients and communities with competence, compassion and respect. In addition to its MD program, the College of Medicine offers additional graduate programs including the [Master of Science \(M.S.\) in Biomedical Science](#) (with or without thesis) and the [Ph.D. in Integrative Biology](#). A Biomedical Science certificate is also offered. These programs are detailed below.

Faculty:

[Biomedical Science Department: http://med.fau.edu/home/departments/biomedical/faculty.php](http://med.fau.edu/home/departments/biomedical/faculty.php)

[Integrated Medical Science Department: http://med.fau.edu/home/departments/imsd/faculty.php](http://med.fau.edu/home/departments/imsd/faculty.php)

[Department of Surgery: http://med.fau.edu/home/departments/surgery/faculty.php](http://med.fau.edu/home/departments/surgery/faculty.php)

Boiselle, P. Dean; Alter, S.; Averkiou, P.; Baganz, N.; Benda, W.; Bensadon, B.; Blakely, R.; Brennan, L.; Brew, K.; Brickman, L.; Caeceres, J. W.; Caputi, M.; Charles, C.; Chesnokov, O.; Chrisphonte, S.; Clayton, L.; Cresanta, J.; DiCoreia, M.; Drowos, J.; Edison, N.; Eisenberg, E.; Foster, J.; Freeman-Costin, K.; Galvin, J.; Gelb, I.; Genuit, T.; George, G.; Gografe, S.; Goldman, S.; Gresch, P.; Gundersen, E. C.; Guthrie, K. M.; Hahn, M.; Haire, H.; Hennekens, C. H.; Holland, P.; Holley, A.; Huang, X.; Hughes, P.; Iragavarapu-Charyulu, V.; Isgor, C.; Iwamoto, H.; Jacomino, M.; Kantorow, M.; Labanowski, M.; Learman, L.; Levitt, M.; Lewis, S.; Li, Z.; Lizotte-Waniewski, M.; Louda, D. W.; Lu, M.; Luck, G.; Markowitz, S. L.; Martinez, L.; Neimark, M.; Newcomer, J.; Nouri-Shirazi, M.; Obeso, B.; Oleinikov, A.; Ouslander, J.;

Prakash, N.; Pergadia, M. L.; Poon, K.; Prentice, H.; Perumareddi, P.; Refai, O.; Reves, B.; Robishaw, J.; Robson, M.; Rose, G.; Schmidt-Kastner, R.; Schwartz, M.; Sehgal, M.; Servoss, J.; Shen, W.; Sherling, D.; Shibata, Y.; Shih, R.; Smith, R.; Sperling, R.; Stewart, A.; Strassnig, M.; Tao, R.; Tolea, M.; Trelka, D.; Van der Put, E.; Webster, M. R.; Wei, J.; Weiner, S.; Weiss, D.; Weinert, D.; Wojcikiewicz, E.; Wood, S.; Wu, J. Y.; Zahra, T.

Doctorate of Medicine

The College of Medicine developed an innovative curriculum for the Doctorate of Medicine that features early community-based clinical experiences, integrated basic science courses with an emphasis on small-group and self-directed learning, longitudinal integrated clerkships at seven affiliated hospitals in Palm Beach and Broward counties, continuity faculty advising and a small class size that fosters a collegial and supportive learning environment. The College provides a student-centered and patient-focused approach that includes regular experiences in its Clinical Skills Simulation Center and interprofessional education with FAU's Nursing and Social Work students. A key component is a curriculum in geriatric medicine that spans the four years of the curriculum. For more information about the medical program, click [here](#).

FAU has also partnered with Scripps Florida to offer a dual Doctorate of Medicine/Doctorate of Philosophy (M.D./Ph.D.) degree, with the medical degree conferred by FAU and the doctorate conferred by The Scripps Research Institute's Kellogg School of Science and Technology. The College sponsors [two](#) combined 7-8 year B.S./M.D. programs [within the university](#). [The first program, MedDirect is offered at the University's Main Campus. The second program is offered through-with the Harriet L. Wilkes Honors College and is referred to as the Wilkes Medical Scholars program. Both of these B.S./M.D. programs are](#) for academically talented high school students who wish to study medicine based on their knowledge of the profession and first-hand medical experiences. For admissions requirements and a description of the program, see the Medical Scholars site [here](#). *(Medical Scholars link needs to be changed to: <http://med.fau.edu/admissions/pipeline.php>)* In addition, in conjunction with Florida A&M University, the College has established a Medical Honors Program (MHP). The MHP is a four-year undergraduate curriculum, focusing on professionalism, ethics, problem-based learning and inter-professional (team building, communication and leadership skills) education. For admission requirements and a program description visit the program's site [here](#).



Admission Requirements

Applicants for the Doctorate of Medicine degree must begin the process by completing an American Medical College Application Service (AMCAS) application online. All applicants must be U.S. citizens or unconditional permanent residents of the United States with an alien registration receipt card in their possession at the time they complete the AMCAS application. Applicants must take the MCAT exam (and release their scores) no later than the fall preceding the year in which they hope to enroll. Applicants who have their verified AMCAS application forwarded to the College of Medicine will be offered an opportunity to complete a secondary application. Completed applications (AMCAS application, letters of recommendation, MCAT score and secondary application) are reviewed by [the admissions an appraisal](#) committee, which

selects those applicants who will be invited for an on-campus interview. Only applicants who complete the on-campus interview with a member of the [admissions interview](#) committee will be considered [by the Admissions Committee](#) for admission to the College of Medicine.

Although preference is given to Florida residents, residents of any state may apply, and up to 15 percent of each entering class may come from states other than Florida. To receive consideration as a Florida resident, applicants must list Florida as their state of legal residence on their AMCAS application. The College of Medicine's goal is to create an enriched learning environment for medical students by admitting applicants from a wide variety of backgrounds. Therefore, qualified students from groups currently underrepresented in medicine—women, students from socioeconomically disadvantaged backgrounds, students from rural or underserved areas and those from non-traditional educational backgrounds—are especially encouraged to apply.

Courses required for admission are:

1. English (2 semesters or 3 quarters);
2. Inorganic Chemistry with labs (2 semesters or 3 quarters);
3. Organic Chemistry with labs (2 semesters or 3 quarters);
4. Physics with labs (2 semesters or 3 quarters);
5. Biology/Zoology with labs (2 semesters or 3 quarters);
6. Mathematics (2 semesters or 3 quarters);
7. Additional science (2 semesters or 3 quarters).

Courses in the sciences and mathematics that are *recommended but not required* include biochemistry, cell and molecular biology, genetics and statistics. The College of Medicine strongly encourages all applicants to broaden their education and supplement required coursework in math and science by pursuing their own individual academic interests. Applicants who major in the sciences do not have an advantage over those majoring in the social sciences or humanities.

The deadline for completing all prerequisite coursework is the end of the spring semester or quarter prior to matriculation. Since some required courses may be taken or completed after the submission of the AMCAS application, all accepted students will be required to submit final official transcripts from all colleges and universities attended in the United States and Canada to the Office of Admissions before matriculation. These transcripts will be used to confirm that the accepted applicant has satisfactorily completed all required courses and received a bachelor's degree or qualified for the granting of the degree. Any deficiencies may be cause for revocation of the acceptance or for deferment to the next entering class.

The admissions committee utilizes a holistic review process that allows for balanced consideration of the multiple ways in which an applicant may demonstrate his or her capacity as a future medical student and physician and ability to contribute to the diversity of the College of Medicine. Among the factors considered in all admissions decisions are:

1. GPAs and MCAT scores;
2. Rigor of the educational program(s) undertaken;
3. Breadth of life experiences;
4. Ability to contribute to an enriched learning environment for all students;
5. Meaningfulness of direct patient contact experiences;
6. Research experiences;
7. Quality of letters of recommendation;
8. Interpersonal skills;
9. Personal qualities and background;
10. Source and degree of motivation to study and practice medicine.



Degree Requirements

Prior to graduation and receipt of the Doctorate of Medicine degree from the Florida Atlantic University Charles E. Schmidt College of Medicine, students must demonstrate proficiency and compliance in, and satisfy the requirements of, each of the following six areas:

1. Courses and Clerkships: Students must complete the required core courses and clerkships and the designated minimum number of elective and selective courses with Ssatisfactory (passing level) performance.
2. Licensing Exams:
 - a. Students must pass the USMLE Step I examination before beginning the third academic year.
 - b. Students must pass the USMLE Step II Clinical Knowledge and Clinical Skills examinations by the deadlines listed in the USMLE policy in the College of Medicine Handbook.
3. Competency Assessments:
 - a. Students must pass all FAU College of Medicine Institutional Competency Assessments.
 - b. Students must earn certification for Advanced Cardiac Life Support (ACLS) and Basic Life

Support (BLS).

4. Professional Performance: Students must demonstrate consistent evidence of professionalism as assessed by the Medical Students Promotions and Professional Standards Committee (MSPPSC) per [the competency based grading system and](#) the Physicianship and Professionalism Advocacy Program (PPAP).

5. Review and Approval of Academic and Professional Record: Students must receive the MSPPSC's recommendation for graduation and receipt of the Doctorate of Medicine degree. The MSPPSC's recommendation for graduation and receipt of the M.D. degree must be approved by the Dean of the FAU College of Medicine.

Required Courses

The following table lists required courses for the medical program.

Year 1 Courses		
Foundations of Medicine 1	BMS 6015	12
Foundations of Medicine 2	BMS 6016	13
Neuroscience and Behavior	BMS 6020	10
Fundamentals of Biomedical Science	BMS 6031	21
Pathophysiology and Therapeutics 1	BMS 6541	7
Year 2 Courses		
Foundations of Medicine 3	BMS 6017	21
Pathophysiology and Therapeutics 2	BMS 6542	13
Pathophysiology and Therapeutics 3	BMS 6543	10
Pathophysiology and Therapeutics 4	BMS 6544	7
USMLE Step 1 Review Course	BMS 960	6
Year 3 Courses		
Synthesis and Transition	BMS 6405	4
Medical and Surgical Sciences LIC	MDC 7012	10
Family and Community Health Sciences LIC	MDC 7011	10
Geriatrics and Palliative Care Clerkship	MDC 7150	15
Internal Medicine Clerkship	MDC 7200	25
Obstetrics and Gynecology Clerkship	MDC 7180	20
Pediatrics Clerkship	MDC 7400	20
Psychiatry Clerkship	MDC 7830	20
Surgery Clerkship	MDC 7600	25

Community and Preventative Medicine Clerkship	MDC 7120	14
Year 4 Courses		
Elective Rotation	MDE 8011	6-12
Transition to Residency	MDE 8067	6
Internal Medicine Sub-Internship	MDI 7200	14
Surgery Sub-Internship	MDI 7600	14
Acting Internship Rotation	MDI 8010	12
Selective Rotation	MDS 8011	12

Doctor of Philosophy

The Charles E. Schmidt College of Medicine offers a doctoral program leading to the Doctor of Philosophy (Ph.D.) degree in Integrative Biology. This is a joint program with the Department of Biological Sciences of the Charles E. Schmidt College of Science in which students can pursue interests across a number of fields, including marine science, biomedical science, biotechnology and biology. For complete program details, [click here](#).

Master of Science with Major in Biomedical Science

Students interested in pursuing advanced studies in biomedical science may obtain a degree of Master of Science (M.S.) with Major in Biomedical Science, taking either the thesis or non-thesis option. The thesis option is oriented toward those students interested in pursuing biomedical research or careers in academia. The non-thesis program is an option for students seeking to solidify their knowledge base in order to apply to appropriate professional schools or pursue careers in the biomedical sciences industry.



Admission Requirements

All program applicants must have an undergraduate grade point average of 3.0 in the last 60 credits and competitive Graduate Record Exam (GRE) scores (scores are valid for five years). These are minimum requirements that are necessary for consideration for admission to the program. Higher scores will increase applicants' chances for admission. Prerequisites of the master's degree program include one year each of biology, chemistry and physics; one semester each of biochemistry and organic chemistry; and at least two upper-division biology classes. A personal statement explaining career goals is required as well as three letters of recommendation, at least two of which must be from former professors.

Recency of Credits

No credit that is more than seven years old at the time the M.S. in Biomedical Science degree is awarded may be counted toward the degree.

Degree Requirements

Non-Thesis Option

This option requires a minimum of 30 graduate-level credits. With their advisor's approval, students design a course of study courses offered in the Charles E. Schmidt College of Medicine as well as courses in related departments and colleges chosen from the following list.

Thesis Option

This option requires a minimum of 30 credits consisting of coursework chosen from the list below, a minimum of 6 thesis credits, 3 thesis-related research credits. Students design a course of study and research with the guidance and approval of the advisors and thesis committees. Thesis students are required to make a formal research proposal to their committees within their first year prior to enrollment in thesis credits. In addition, upon completion of their research, they must make a formal thesis presentation and defense in the semester they plan to graduate. All thesis students must also receive certification of completion of the Responsible Conduct of Research program. The RCR program, which is offered jointly through the Graduate College and Division of Research, covers the nine instructional areas of RCR. All four components are mandatory in order to receive certification of completion.

Students wishing to change their admission from the thesis option to the non-thesis option must submit to the Graduate Program Committee a letter of request that states the justification for the change and a letter from the thesis advisor in support of the request. An interview with the Graduate Program Committee may be required. A maximum of 6 credits from the thesis career can be applied toward the non-thesis career upon approval by the Graduate Program Committee. PCB 6974 and PCB 6971 credits are non-transferable.

Graduate-Level Courses		
Biomedical Science (minimum of 15 credits required)		
Integrated Morphology 1	BMS 6102C	4
Integrated Morphology 2	BMS 6104C	4
Clinical Microbiology	BMS 6303	3
Autonomic Function and Diseases	BMS 6523	3
Fundamentals of General Pathology	BMS 6601	3
Brain Diseases: Mechanism and Therapy	BMS 6736	3
Biomedical Data and Informatics	BSC 6459	3
Macromolecules and Human Disease	GMS 6301	3
Molecular Basis of Disease and Therapy	GMS 6302	3
Host Defense and Inflammation	MCB 6208	3
Advanced Molecular and Cellular Biology	PCB 5532	3
Neurobiology of Addiction	PCB 5844	3

Advanced Cell Physiology	PCB 6207	3
Molecular Basis of Human Cancer	PCB 6235	3
Problem-Based Immunology	PCB 6238	3
Tumor Immunology	PCB 6239	3
Human Genetics	PCB 6665	3
Molecular Biology of the Cardiovascular System and Cardiac Disease	PCB 6705	3
Adult Neurogenesis	PCB 6848	3
Physiology of the Heart	PCB 6885	3
Directed Independent Study	PCB 6905	1-3
Special Topics	PCB 6933	1-8
Graduate Seminars	PCB 6934	1
Thesis-Related Research	PCB 6974	2-3
Developmental Neurobiology	PSB 6515	3
Top		
Biology		
Bioinformatics	BSC 6458C	4
Advanced Virology	MCB 6506	3
Advanced Molecular Genetics of Aging	PCB 5245	3
Advanced Immunology	PCB 6236	3
Chemistry		
Advanced Biochemistry	BCH 6740	3
Complex Systems & Brain Sciences		
Cognitive Neuroscience	ISC 5465	3
Psychology		
Biological Vision	PSB 5117	3
Principles of Neuroscience	PSB 6037	3
Neuroscience 1	PSB 6345	3
Neuroscience 2	PSB 6346	3

Biomedical Science Certificate

Biomedical Science is a broad and interdisciplinary field focused on understanding and improving human health. It incorporates diverse areas of specialized investigation that share this common goal, including anatomy, biochemistry, genetics, immunology, microbiology, pharmacology and others. The Biomedical Science certificate is offered to provide master's and

Ph.D. students an integrated background in the biomedical sciences. To achieve this, the 12-credit program is designed with flexibility. Although the program is centered on the Charles E. Schmidt College of Medicine, faculty from other colleges and institutions contribute to the program's success, and students are welcomed from many departments, centers and colleges throughout the University.

Admission Requirements

Admission to and completion of this program is organized by the Graduate Program Office in the College of Medicine. For admission, the applicant must satisfy the following criteria:

1. Enrollment in an FAU master's or Ph.D. training program in any of the following: Biomedical Science, Biological Sciences, Chemistry and Biochemistry, Complex Systems and Brain Sciences, Integrative Biology and Psychology. Students must have approval of their graduate program to enroll and must remain in good standing with their graduate program to continue in this certificate.
2. Demonstrate competency in life science, mathematics and other courses related to the certificate program, such as by achieving at least a "B" in these courses.
3. Interview with the certificate director or graduate committee chair to discuss program goals and requirements and obtain permission to enroll.

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Program Requirements

The certificate curriculum provides students opportunities to survey different areas of the biomedical sciences and to focus on areas of particular interest. Program requirements are designed to be tailored to the individual student with previous coursework and future goals in mind.

1. Students must achieve a minimum grade of "B" in four of the courses below for a total of 12 credits:

Choose four courses from the list below (12 credits)		
Integrated Morphology 1	BMS 6102C	4
Integrated Morphology 2	BMS 6104C	4
Clinical Microbiology	BMS 6303	3
Autonomic Function and Diseases	BMS 6523	3
Fundamentals of General Pathology	BMS 6601	3
Brain Diseases: Mechanism and Therapy	BMS 6736	3
Macromolecules and Human Disease	GMS 6301	3
Molecular Basis of Disease and Therapy	GMS 6302	3

Host Defense and Inflammation	MCB 6208	3
Advanced Molecular and Cellular Biology	PCB 5532	3
Neurobiology of Addiction	PCB 5844	3
Advanced Cell Physiology	PCB 6207	3
Molecular Basis of Human Cancer	PCB 6235	3
Problem-Based Immunology	PCB 6238	3
Tumor Immunology	PCB 6239	3
Human Genetics	PCB 6665	3
Molecular Biology of the Cardiovascular System and Cardiac Disease	PCB 6705	3
Adult Neurogenesis	PCB 6848	3
Physiology of the Heart	PCB 6885	3
Special Topics	PCB 6933	3
Developmental Neurobiology	PSB 6515	3

2. Students must participate in the College of Medicine Research Day each year showcasing graduate student research in the College.

No credit that is more than seven years old at the time the graduate certificate in Biomedical Science is awarded may be counted toward the certificate.