MEDICAL SCIENCES

Program Information

Dean: C. Koch
Associate Dean for Graduate Education: T. Rowe

A complete listing of graduate programs in the College of Medicine can be found at: https://graduate.education.med.ufl.edu

The College of Medicine offers training opportunities leading to either the Doctor of Philosophy or Master of Science degree in medical sciences. Minimum requirements for these degrees are given in the General Information section of this catalog. The interdisciplinary program in biomedical sciences (BMS) is the major focus leading to the Doctor of Philosophy degree. Other graduate courses and programs are listed under departmental or concentration headings.

Graduate Program in Biomedical Sciences (BMS)

The Graduate Program in Biomedical Sciences (BMS Program) is an umbrella Ph.D. program that offers students the opportunity to explore one or more areas of study before choosing their mentor and concentration of study. The BMS Program has seven concentrations of study which include:

· Biochemistry and Molecular Biology
· Cancer Biology
· Genetics
· Immunology and Microbiology
· Molecular Cell Biology
· Pharmacology and Therapeutics
· Physiology and Aging

The goal of the BMS is to prepare students for a diversity of careers in research and teaching in academic, government, and commercial settings, after completion of the Ph.D. in Medical Sciences. The program provides a modern, comprehensive graduate education in biomedical sciences while providing both maximum program flexibility and appropriate specialization for advanced training. The BMS represents a cooperative effort of seven interdisciplinary advanced concentrations with participation of over 300 faculty members.

During the first semester of study, students undertake a common, comprehensive interdisciplinary core curriculum of classroom study and a responsible conduct of research course. During the second semester, students begin to focus their coursework in one or two concentrations. Throughout the first two semesters, students participate in at least three laboratory rotations in any of the laboratories of the BMS faculty members. The advanced concentration and the supervisory committee chair are chosen no later than the end of the spring semester to maximize flexibility and facilitate an informed decision. Students entering the advanced concentrations take more specialized courses that strengthen their knowledge of these disciplines. The advanced concentration curricula are flexible enough to allow students to integrate course work offered in other advanced concentrations. In addition, journal clubs and seminars associated with their research interests allow students to further augment their scientific development.

Prospective students should have strong backgrounds in biology including genetics, chemistry (organic, quantitative, and biochemistry), physics, and calculus. Demonstrated high motivation and a serious intention to pursue research-related careers are also important considerations. This is best accomplished by performing independent study in a research laboratory for at least a semester, with a year or more being preferred. For more information, write:

BMS P.O. Box 100229 College of Medicine Gainesville, FL 32610-0229 For expanded information about the BMS, visit http://biomed.med.ufl.edu/.

Advanced Concentration in Biochemistry and Molecular Biology

Coordinators: Mathew E. Merritt and Craig W. Vander Kooi

The Graduate Faculty of the biochemistry and molecular biology advanced concentration share an interest in the relationships between the structure of a biological macromolecule and the function of that molecule in the cell. The structure (encoded ultimately by the genome) sets the phenotype of the organism. The uniting theme among the Graduate Faculty is their approach to research: Each uses the techniques of biochemistry and molecular biology/genetics to characterize the function of a macromolecule and show how function (and the process it is part of) is determined by the structure of that molecule and its interactions with other macromolecules. Specific research directions range from physical determination of the molecular structure of proteins to regulation of cellular processes to the genetic mapping of disease loci.

For information about other programs and courses in this field, see the Department of Biochemistry and Molecular Biology (http://gradcatalog.ufl.edu/graduate/colleges-departments/medicine/biochemistry-molecular/) listing.

Advanced Concentration in Cancer Biology

Directors: Dietmar Siemann and Maria Zajac-Kaye

The Cancer Biology Concentration (CBC) provides training opportunities in cancer research ranging from basic to translational. The program spans many disciplines, including molecular and cell biology, genetics and epigenetics, biochemistry, microbiology, pharmacology, anatomy, pathology, epidemiology, bioinformatics, immunology and many others involved in the understanding of the development, progression, dissemination, and treatment of cancer.

Students in the program will have opportunities to work with outstanding cancer investigators in state-of-the-art facilities. Through combinations of courses, seminars, small group discussions, and an interdisciplinary approach to research, the program allows students to gain a unique understanding of cancer and to build a firm foundation upon which they can build careers in academia, government, and the biotech or pharmaceutical industry

For more information please see our website: http://BMS.med.ufl.edu/about/cancer-biology-concentration (http://BMS.med.ufl.edu/about/cancer-biology-concentration/)

Advanced Concentration in Clinical and Translational Science

Director: Wayne McCormack\

The Clinical & Translational Science PhD program provides graduate students with knowledge and skills required to develop a career in multidisciplinary clinical and translational research. This program uses a team-science approach to provide didactic training and mentoring for predoctoral students performing clinical and/or translational research in health-related fields at UF. Completion of program requirements results in the award of an interdisciplinary concentration in Clinical & Translational

Science. Doctoral students from all UF doctoral graduate programs who are interested in health-related research are eligible to apply.

For more information contact:
Dr. Wayne McCormack
Program Director
mccormac@ufl.edu (http://gradcatalog.ufl.edu/graduate/colleges-departments/medicine/interdisciplinary-departments/medical/mccormac@ufl.edu)
https://www.ctsi.ufl.edu/education/ph-d-students/

Advanced Concentration in Genetics

Coordinators: M. R. Wallace and Lei Zhou

The concentration in genetics offers graduate training in all facets of modern molecular genetics including bacterial, viral, lower eukaryotic, mouse, developmental, and human genetics. The courses listed are taught in a 5-week modular format, ranging from 1-3 modules. For more information please see our website: https://biomed.med.ufl.edu/about/genetics/

Advanced Concentration in Immunology and Microbiology

Coordinators: David Ostrov, Jose Lemos, and Scott Tibbetts

The concentration in immunology and microbiology offers graduate training in cellular and molecular immunology (including immunopathology, immunogenetics, and autoimmunity) and in microbiology (including virology, bacteriology, microbial genetics, and microbial pathogenesis). The courses listed are taught in a 5-week modular format, ranging from 1-3 modules.

For more information see website: https://biomed.med.ufl.edu/about/immunology-microbiology/

Advanced Concentration in Medical Physics

Director: Manuel Arreola

The University of Florida's Medical Physics Graduate Program is one of the oldest medical physics programs in the United States (originating in 1961) and is accredited for graduate degrees (MS and PhD) by the Commission on Accreditation of Medical Physics Education Programs (http://www.campep.org/)(CAMPEP).
Academically housed in the College of Medicine (https://med.ufl.edu/), the program is a concentration under Medical Sciences. The program has multiple participating departments in the Colleges of Medicine and Engineering, including Radiation Oncology, Radiology, Neurosurgery, and Biomedical Engineering. Recently, students have been conducting their research at the UF Proton Therapy Institute (https://www.floridaproton.org/) (UFPTI) in Jacksonville; the Mayo Clinic (https://www.mayoclinic.org/patient-visitor-guide/florida/) in Jacksonville, the Robert Boisenault Oncology Institute (https://www.rboi.com/) with multiple locations in central Florida; and the Orlando Health Cancer Institute (https://www.orlandohealth.com/services-and-specialties/orlando-health-cancer-institute/). Faculty from UFPTI participate in the direction of clinical training and research.

Advanced Concentration in Molecular Cell Biology

Coordinators: Alexander Ishov and William Dunn

The advanced concentration in molecular cell biology (MCB) prepares investigators for careers in biomedical research in academic or industrial settings. This multidisciplinary specialization has more than 50 participating faculty members and offers an extraordinary range of opportunities for advanced study of life at the molecular and cellular levels. The Graduate Faculty share common interests in the molecular interactions that account for functionally integrated subcellular, cellular, and tissue organization found in living organisms. The model systems in use range from yeast and cellular lime molds through Drosophila to birds and mammals. These systems are manipulated and analyzed using a wide range of powerful molecular, genetic, protein chemical, immunological, pharmacological, nuclear magnetic resonance (NMR), and microscopic imaging strategies. Students who select MCB take advanced course work and initiate independent research during the second year. This approach provides broad-based vision early in the program and the appropriate degree of specialization later on.

For more information see website: https://biomed.med.ufl.edu/about/molecular-cell-biology/

Advanced Concentration in Neuroscience

Coordinators: Benoit Giasson and Eduardo Candelario-Jalil

Graduate students in the Neuroscience Concentration of Medical Sciences are mentored by faculty who are passionate about advancing our understanding of the normal and disordered nervous system using state-of-the-art technologies. This program provides a fertile ground for trainees to develop original research that will contribute to the field and that is directly relevant to preserving brain health and combatting neural disease. As a neuroscience student at UF, you will receive broad interdisciplinary training that fosters independent critical thinking and develops problem-solving skills. This program includes rigorous coursework, specialized seminar series, and explicit training in grant writing and other professional skills. Trainees have extensive opportunities to present their research for UF colleagues and at national and

international conferences. This program prioritizes student's career development, and through a partnership with UF's McKnight Brain Institute (https://mbi.ufl.edu/education-outreach/trainee-funding-opportunities/), offers an array of unique training opportunities.

Advanced Concentration in Pharmacology and Therapeutics

Coordinators: Jeffrey Harrison and Gemma Casadesus

The Graduate Faculty in this advanced concentration do cutting-edge research connecting mechanisms of human disease with the development of new medical therapies. Students learn the principals of biomedicine, such as how drugs and biological agents are discovered and developed to treat human diseases or conditions. Training in this concentration prepares graduates for career paths in academic science, pharmaceutical/biotech industry, and government/regulatory affairs.

For more information see website: https://biomed.med.ufl.edu/about/pharmacology-concentration/

Advanced Concentration in Physiology and Aging

Directors: Gonzalo Torres and Glenn Walter

The Graduate Faculty associated with this advanced concentration have expertise in a variety of disciplines, including molecular and cellular biology, pharmacology, physiology, neuroscience, and biochemistry. These faculty bring together unique strengths to provide the students with diverse training. Students may train in laboratories involved in cardiovascular, neuro, endocrine, and developmental physiology;

pharmacology; and toxicology. Students conduct research at the molecular, cellular, and integrative levels. Many of the faculty are involved in multidisciplinary, collaborative research efforts that aim to understand basic physiological mechanisms and pathophysiological processes (e.g., cardiovascular, neurodegenerative, and neoplastic diseases).

Other Doctoral Programs in Medical Sciences

Biomedical Informatics

The Ph.D. in Medical Sciences, with a concentration in Biomedical Informatics, offers advanced training in computer science, health and medicine, biostatistics, data science and analytics, engineering, and research methodology to prepare students for academic and research careers in the growing field of biomedical informatics. Graduates will be prepared to pursue faculty-level positions and help drive innovation in health care and research.

Health Outcomes and Implementation Science

The Ph.D. in Medical Sciences, with a concentration in Health Outcomes and Implementation Science, is a specialized degree designed to put its graduates at the forefront of innovative research to develop, implement, and evaluate clinical and community-based programs that promote health and health outcomes. Throughout the curriculum, special emphasis is placed on health disparities and vulnerable populations.

Combination Degree Program: The College participates in a combination degree program between a Bachelor of Science degree with a major in Biology and a Master of Science degree with a major in Medical Sciences with or without a concentration in Pharmacology. Information on this program can be found at: https://biology.ufl.edu/undergraduates/undergraduate-combined-degree-program-offerings/bsms-program-requirements/bachelor-of-science-in-biology-and-master-of-science-in-medical-sciences/

Degrees Offered

Degrees Offered with a Major in Medical Sciences

- Doctor of Philosophy
  - without a concentration
  - concentration in Biochemistry and Molecular Biology
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Health Outcomes and Implementation Science*
    - *optional second concentration in Health Outcomes and Policy*
    - *optional second concentration in Reproductive Biotechnology*
  - concentration in Biomedical Informatics
  - concentration in Cancer Biology
    - *optional second concentration in Clinical and Translational Science*
  - concentration in Clinical and Translational Science
    - *optional second concentration in Health Outcomes and Implementation Science*
  - concentration in Domestic Animal Genomics
  - concentration in Genetics
    - *optional second concentration in Cancer Biology*
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Health Outcomes and Implementation Science*
    - *optional second concentration in Health Outcomes and Policy*
  - concentration in Health Outcomes and Implementation Science
    - *optional second concentration in Clinical and Translational Science*
  - concentration in Imaging Science and Technology
  - concentration in Immunology and Microbiology
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Health Outcomes and Implementation Science*
    - *optional second concentration in Health Outcomes and Policy*
    - *optional second concentration in Reproductive Biotechnology*
  - concentration in Medical Physics
    - *optional second concentration in Clinical and Translational Science*
  - concentration in Molecular Cell Biology
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Health Outcomes and Implementation Science*
    - *optional second concentration in Health Outcomes and Policy*
    - *optional second concentration in Reproductive Biotechnology*
  - concentration in Neuroscience
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Health Outcomes and Implementation Science*
    - *optional second concentration in Health Outcomes and Policy*
  - concentration in Pharmacology & Therapeutics
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Reproductive Biotechnology*
  - concentration in Physiology and Aging
    - *optional second concentration in Clinical and Translational Science*
    - *optional second concentration in Reproductive Biotechnology*
  - concentration in Reproductive Biotechnology
  - concentration in Toxicology
- Master of Science
  - without a concentration
  - concentration in Biomedical Informatics
  - concentration in Biomedical Neuroscience
  - concentration in Domestic Animal Genomics
  - concentration in Forensic Medicine
  - concentration in Genetics and Genomics
  - concentration in Gerontology
    - *optional second concentration in Medical Physiology and Pharmacology*
  - concentration in Health Outcomes and Implementation Science
  - concentration in Medical Anatomy and Physiology
  - concentration in Medical Physics
  - concentration in Medical Physiology and Aging
    - *optional second concentration in Medical Anatomy and Physiology*
  - concentration in Medical Physiology and Pharmacology
    - *optional second concentration in Medical Anatomy and Physiology*
    - *optional second concentration in Reproductive Biotechnology*

- concentration in Molecular Cell Biology
  - *optional second concentration in Reproductive Biotechnology*
- concentration in Molecular Genetics and Microbiology
- concentration in Neuroscience
- concentration in Pharmacology
  - *optional second concentration in Reproductive Biotechnology*
- concentration in Reproductive Biotechnology

Requirements for these degrees are given in the Graduate Degrees (http://gradcatalog.ufl.edu/graduate/degrees/) section of this catalog.

Courses

Core Courses-IDP

Code	Title	Credits
GMS 6001	Fundamentals of Biomedical Sciences I	5
GMS 6003	Fundamentals of Graduate Research and Professional Development	1
GMS 6007	Fundamentals of Neuroscience	3
GMS 6009	Principles of Drug Action and Therapeutics	3
GMS 6065	Fundamentals of Cancer Biology	3
GMS 6090	Research in Medical Sciences	1-10
GMS 7877	Responsible Conduct of Biomedical Research	1
GMS 7593	Topics in Pharmacology and Toxicology	1-3

General and Advanced Courses

Code	Title	Credits
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 6090	Research in Medical Sciences	1-10
GMS 6622	Mitochondrial Biology in Aging and Disease	2
GMS 6905	Independent Studies in Medical Sciences	1-10
GMS 6910	Supervised Research	1-5
GMS 6875	Ethical and Policy Issues in Clinical Research	2
GMS 6940	Supervised Teaching	1-5
GMS 6971	Research for Master's Thesis	1-15
GMS 7950	Fundamentals of Biomedical Science Education	2
GMS 7944	Practicum in Biomedical Science Education	3
GMS 7877	Responsible Conduct of Biomedical Research	1
GMS 7979	Advanced Research	1-12
GMS 7980	Research for Doctoral Dissertation	1-15

Advanced Concentration Courses

Advanced Concentration in Biochemistry and Molecular Biology Courses

Code	Title	Credits
BCH 6040	Research Discussion in Biochemistry and Molecular Biology	1
BCH 6206	Advanced Metabolism	3
BCH 6207	Advanced Metabolism: Role of Membranes in Signal Transduction and Metabolic Control	1
BCH 6208	Advanced Metabolism: Regulation of Key Reactions in Carbohydrate and Lipid Metabolism	1
BCH 6209	Advanced Metabolism: Regulation of Key Reactions in Amino Acid and Nucleotide Metabolism	1
BCH 6415	Advanced Molecular and Cell Biology	3
BCH 6740	Physical Biochemistry/Structural Biology	3
BCH 6741C	Magnetic Resonance Imaging and Spectroscopy in Living Systems	3
BCH 6744	Molecular Structure Determination by X-ray Crystallography	1
BCH 6745	Molecular Structure and Dynamics of NMR Spectroscopy	1
BCH 6746	Structural Biology: Macromolecular Structure Determination	1
BCH 6747	Structural Biology/Advanced Physical Biochemistry: Spectroscopy and Hydrodynamics	1
BCH 6749C	Numerical Methods in Structural Biology	1
BCH 6876	Recent Advances in Membrane Biology	1
BCH 6877	Recent Advances in Structural Biology	1
BCH 6936	Biochemistry Seminar	1
BCH 7410	Advanced Gene Regulation	1
BCH 7412	Epigenetics of Human Disease and Development	1
BCH 7515	Structural Biology/Advanced Physical Biochemistry: Kinetics and Thermodynamics	1
GMS 6195	Epigenetics Journal Club	1

Advanced Concentration in Cancer Biology Courses

Code	Title	Credits
BCH 5413	Mammalian Molecular Biology and Genetics	3
BCH 7410	Advanced Gene Regulation	1
BCH 7412	Epigenetics of Human Disease and Development	1
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 6009	Principles of Drug Action and Therapeutics	3
GMS 6053	Cancer Biology and Therapeutics	1
GMS 6061	Nuclear Structure and Dynamics	1
GMS 6064	Tumor Biology	1
GMS 6065	Fundamentals of Cancer Biology	3
GMS 6090	Research in Medical Sciences	1-10
GMS 6232	Advanced Applications of Bioinformatics in Genetics	1
GMS 6335	Advanced Stem Cell Biology: Tissue Engineering	1
GMS 6338	Recent Advances in Cancer Metastasis	1
GMS 6421	Cell Biology	4
GMS 6647	Transcriptional and Translational Control of Cell Growth and Proliferation	1
GMS 6683	Fundamentals of Vascular Physiology and Pathology	2
GMS 6691	Special Topics in Cell Biology and Anatomy	1-4
GMS 6812	Health Outcomes Research in Cancer	3
PHC 6937	Special Topics in Public Health	1-6

Advanced Concentration in Genetics Courses

Code	Title	Credits
BCH 7410	Advanced Gene Regulation	1
GMS 6012	Human Genetics	1
GMS 6013	Developmental Genetics	1
GMS 6014	Applications of Bioinformatics to Genetics	1
GMS 6034	Advanced Virology I: Genetics and RNA	1
GMS 6038	Bacterial Genetics and Physiology	1
GMS 6153	Advanced Bacterial Genetics	1
GMS 6195	Epigenetics Journal Club	1
GMS 6231	Genomics and Bioinformatics	3
GMS 6232	Advanced Applications of Bioinformatics in Genetics	1

GMS 6290	Genetics/Genomics Program Graduate Seminar	1
GMS 6506	Biologic Drug Development	1
GMS 6920	Genetics Journal Colloquy	1
GMS 7192	Journal Colloquy	1

Advanced Concentration in Health Outcomes and Implementation Science Courses

Code	Title	Credits
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 6802	Health Outcomes Research for Chronic Diseases	3
GMS 6803	Data Science for Clinical Research	3
GMS 6804	Translational Bioinformatics	3
GMS 6805	Information Modeling in Biomedicine	3
GMS 6806	Security and Privacy for Clinical Research	3
GMS 6812	Health Outcomes Research in Cancer	3
GMS 6813	Pragmatic Clinical Trials	3
GMS 6822	Measuring and Analyzing Health Outcomes II	3
GMS 6829	Longitudinal Research Design	2
GMS 6833	Health Outcomes Research in Vulnerable Populations	3
GMS 6836	Foundations of Learning Health Systems Research	1
GMS 6846	Systematic Review and Meta-Analysis in Clinical, Health Services Research and Public Health	2
GMS 6848	Ensuring Rigor and Reproducibility in Clinical and Translational Research	1
GMS 6850	Foundations of Biomedical Informatics	3
GMS 6851	Fundamentals of Dissemination and Implementation Research	3
GMS 6852	Community Engaged Research for Clinical Effectiveness and Implementation Science Studies	2
GMS 6853	Improvement and Implementation Science in the Learning Health System	3
GMS 6856	Introduction to Biomedical Natural Language Processing	3
GMS 6857	Clinical Decision Support Systems	3
GMS 6885	Translational Health Research Design	3
GMS 6889	Systematic Review Methods	3
GMS 6893	Clinical and Translational Science Seminar Series	2
GMS 7858	Causal Artificial Intelligence for Health Research	3
GMS 7866	Principles of Referent Tracking in Biomedical Informatics	3
GMS 7886	Health Outcomes and Policy PhD Seminar: Applied Research	3
GMS 7887	Health Outcomes & Policy PhD Research Seminar	1
GMS 7906	Grant Writing for Health Outcomes Studies	2
STA 5503	Categorical Data Methods	3
STA 5701	Applied Multivariate Methods	3
STA 6166	Statistical Methods in Research I	3
STA 7179	Survival Analysis	3
STA 7249	Generalized Linear Models	3
STA 7346	Statistical Inference	3
STA 7347	Advanced Inference	3

Advanced Concentration in Immunology and Microbiology Courses

Code	Title	Credits
VME 6505	Autoimmunity	1
GMS 6034	Advanced Virology I: Genetics and RNA	1
GMS 6035	Advanced Virology II: RNA Viruses	1
GMS 6036	Molecular Virology III: DNA Viruses	1
GMS 6038	Bacterial Genetics and Physiology	1
GMS 6040	Host-Pathogen Interactions	1
GMS 6121	Infectious Diseases	3
GMS 6140	Principles of Immunology	4
GMS 6193	Research Conference in Oral Biology	1-3
GMS 6196	Virology Journal Club	1
GMS 6198	Bacterial Pathogenesis Journal Club	1
GMS 6337	B Cell Development in Health and Disease	1
GMS 6382	Special Topics in Immunology	1-3
GMS 6921	Immunology/Microbiology Journal Colloquy	1
GMS 7192	Journal Colloquy	1
VME 6934	Topics in Veterinary Medical Sciences	1-4

Advanced Concentration in Medical Physiology and Pharmacology Courses for the Master of Science Degree

Required core pharmacology courses (9 credits):

GMS 6551 Fundamentals of Medical Pharmacology and Therapeutics (1 cr.)

GMS 6520 Medical Pharmacology and Therapeutics I: The Nervous System (2 cr.)
GMS 6530 Medical Pharmacology and Therapeutics II: Cardiovascular, Renal and Respiratory Systems (2 cr.)
GMS 6531 Medical Pharmacology and Therapeutics III: Endocrine, Musculoskeletal and Reproductive Systems (2 cr.)
GMS 6540 Medical Pharmacology and Therapeutics IV: Cancer, Antimicrobial and Antiparasitic Agents (2 cr.)

Select an additional 6 pharmacology credits from the list below (6 Credits):

GMS 6510 Pharmacology of Cannabis, Tobacco, and Vaping (2 cr.)
GMS 6070 Sensory and Motor Systems (3 cr.)
GMS 6504 Advanced Medical Pharmacology (2 cr.)
GMS 6552 Cell Signaling & Therapeutics (2 cr.)
GMS 6594 Pharmacology Literature (1 cr.)
GMS 6591 Communicating Pharmacology (1 cr.)

Required core physiology courses (9 credits):

GMS 6440 Fundamentals of Medical Physiology (1 cr.)
GMS 6401 Medical Renal Physiology (2 cr.)
GMS 6402 Medical Respiration Physiology (3 cr.)
GMS 6474 Medical Cardiovascular and Muscle Physiology (3 cr.)

Select an additional 6 physiology credits from the list below (6 credits):

GMS 6419 Medical Endocrinology and Reproduction (3 cr.)
GMS 6479 Medical Gastrointestinal Physiology (2 cr.)
GMS 6410 Physiology of the Circulation of Blood (2 cr.)
GMS 6413 Advances in Hypertension Research (2 cr.)
GMS 6414 Advanced Renal Physiology (2 cr.)
GMS 6470 Adv. Respiration Physiology 1 (3 cr.)
GMS 6475 Adv. Respiration Physiology 2 (3 cr.)

Advanced Concentration in Molecular Cell Biology Courses

Code	Title	Credits
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 6013	Developmental Genetics	1
GMS 6061	Nuclear Structure and Dynamics	1
GMS 6062	Protein Trafficking	1
GMS 6063	Cell Biology of Aging	1
GMS 6064	Tumor Biology	1
GMS 6065	Fundamentals of Cancer Biology	3
GMS 6331	Stem Cell Biology	1
GMS 6335	Advanced Stem Cell Biology: Tissue Engineering	1
GMS 6336	Advanced Stem Cell Biology: Regenerative Medicine	1
GMS 6421	Cell Biology	4
GMS 6622	Mitochondrial Biology in Aging and Disease	2
GMS 6635	Organization of Cells and Tissues	3
GMS 6647	Transcriptional and Translational Control of Cell Growth and Proliferation	1
GMS 6690	Molecular Cell Biology Journal Club	1
GMS 6691	Special Topics in Cell Biology and Anatomy	1-4
GMS 6692	Research Conference in Anatomy and Cell Biology	1

Advanced Concentration in Neuroscience Courses

Code	Title	Credits
GMS 6007	Fundamentals of Neuroscience	3
GMS 6021	Organization and Development of the Nervous System	2
GMS 6022	Principles of Neurophysiology	2
GMS 6023	Molecular Neuroscience and Neuropharmacology	3
GMS 6025C	Statistics for Neuroscientists	4
GMS 6029	Brain Journal Club	1
GMS 6073	Disorders of the Developing Nervous System	1
GMS 6080	Basic Magnetic Resonance Imaging	1
GMS 6082	Introduction to Functional Magnetic Resonance Imaging	1
GMS 6701	Functional and Comparative Neuroanatomy for Professionals	3
GMS 6705	Functional Human Neuroanatomy	4
GMS 6711	Neurobiology of Pain	1
GMS 6712	Biological Clocks in Neural Health and Disease	3
GMS 6713	Neurobiol of Behav Disorders	3
GMS 6719	Computational Skills for Neuroscience	2
GMS 6741	Neuropathology	1
GMS 6750	Molecular Pathobiology of Neural Disease	1
GMS 6757	Introduction to Alzheimer's Disease and Related Dementias: Clinical and Mechanistic Principles	2
GMS 6790	New Developments in Neuroscience	2
GMS 6791	Visual Neuroscience Journal Club	1-2
GMS 6792	Neuroscience Graduate Research Seminar	1
GMS 7794	Neuroscience Seminar	1
GMS 7795	Special Topics in Neuroscience	1-4

Advanced Concentration in Oral Biology Courses

Code	Title	Credits
DEN 6680	Principles and Craniofacial Biology and Emerging Therapies	2
DEN 6681	Craniofacial Pathobiology	2

Advanced Concentration in Clinical and Translational Science Courses

College of Medicine Courses

Code	Title	Credits
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 6001	Fundamentals of Biomedical Sciences I	5
GMS 6003	Fundamentals of Graduate Research and Professional Development	1
GMS 6090	Research in Medical Sciences	1-10
GMS 6096	Introduction to NIH Grant Writing for Biomedical Sciences	1
GMS 6405	Fundamentals of Endocrine Physiology	1
GMS 6406	Fundamentals of Pulmonary/Respiratory Physiology	1
GMS 6408	Fundamentals of Renal Physiology	1
GMS 6411	Fundamentals of Cardiovascular Physiology	1
GMS 6415	Fundamentals of Gastrointestinal Physiology	1
GMS 6491	Journal Club in Physiology	1
GMS 6780	Addiction: Neuroscience and Trends	3
GMS 6865	Quantitative Literacy for Translational Research	2
GMS 6875	Ethical and Policy Issues in Clinical Research	2
GMS 6895	CTS Journal Club	1
GMS 6903	Manuscript and Abstract Writing for Clinician/Scientists	2
GMS 6905	Independent Studies in Medical Sciences	1-10
GMS 6910	Supervised Research	1-5
GMS 6940	Supervised Teaching	1-5
GMS 6971	Research for Master's Thesis	1-15
GMS 7093	Introduction to Clinical and Translational Research	2
GMS 7877	Responsible Conduct of Biomedical Research	1
GMS 7944	Practicum in Biomedical Science Education	3
GMS 7950	Fundamentals of Biomedical Science Education	2
GMS 7979	Advanced Research	1-12
GMS 7980	Research for Doctoral Dissertation	1-15

Medical Sciences Courses

Code	Title	Credits
GMS 5057	Medical Cell Biology	3
GMS 5604	Medical Human Embryology	3
GMS 5605	Medical Anatomy	3
GMS 5606L	Medical Human Anatomy Laboratory	3
GMS 5613	Medical Human Anatomy by Diagnostic Imaging	3
GMS 5630	Medical Histology	4
GMS 5905	Special Topics in Biomedical Sciences	1-4
GMS 5909	Finding Biomedical Research Information and Communicating Science	1
GMS 6001	Fundamentals of Biomedical Sciences I	5
GMS 6003	Fundamentals of Graduate Research and Professional Development	1
GMS 6007	Fundamentals of Neuroscience	3

GMS 6009	Principles of Drug Action and Therapeutics	3
GMS 6012	Human Genetics	1
GMS 6013	Developmental Genetics	1
GMS 6014	Applications of Bioinformatics to Genetics	1
GMS 6021	Organization and Development of the Nervous System	2
GMS 6022	Principles of Neurophysiology	3
GMS 6023	Molecular Neuroscience and Neuropharmacology	3
GMS 6029	Brain Journal Club	1
GMS 6034	Advanced Virology I: Genetics and RNA	1
GMS 6035	Advanced Virology II: RNA Viruses	1
GMS 6036	Molecular Virology III: DNA Viruses	1
GMS 6038	Bacterial Genetics and Physiology	1
GMS 6040	Host-Pathogen Interactions	1
GMS 6051	Signal Transduction	1
GMS 6052	Medical Radiation Shielding & Protection	3
GMS 6053	Cancer Biology and Therapeutics	1
GMS 6061	Nuclear Structure and Dynamics	1
GMS 6062	Protein Trafficking	1
GMS 6063	Cell Biology of Aging	1
GMS 6064	Tumor Biology	1
GMS 6065	Fundamentals of Cancer Biology	3
GMS 6070	Sensory and Motor Systems	3
GMS 6073	Disorders of the Developing Nervous System	1
GMS 6080	Basic Magnetic Resonance Imaging	1
GMS 6082	Introduction to Functional Magnetic Resonance Imaging	1
GMS 6090	Research in Medical Sciences	1-10
GMS 6096	Introduction to NIH Grant Writing for Biomedical Sciences	1
GMS 6099	Research Methods in Gerontology	3
GMS 6108	Bacterial Physiology, Antibiotics, and Genetics	3
GMS 6121	Infectious Diseases	3
GMS 6123	Tropical Medicine Patient Case and Journal Discussion	1
GMS 6132	Introductory Gene and Immunotherapy	2
GMS 6140	Principles of Immunology	4
GMS 6143	Cells of the Innate Immune System	1
GMS 6153	Advanced Bacterial Genetics	1
GMS 6162	Oral Microbiology and Immunology	2
GMS 6169	Antimicrobial Strategies	1
GMS 6193	Research Conference in Oral Biology	1-3
GMS 6195	Epigenetics Journal Club	1
GMS 6196	Virology Journal Club	1
GMS 6198	Bacterial Pathogenesis Journal Club	1
GMS 6221	Ethics in Genetics	1
GMS 6224	Foundations in Precision Medicine: Medical Molecular Genetics	1
GMS 6231	Genomics and Bioinformatics	3
GMS 6232	Advanced Applications of Bioinformatics in Genetics	1
GMS 6234	Introduction to phylodynamics: A practical approach to molecular phylogenetics of pathogens	3
GMS 6251	Molecular Therapy I – Vectors and Molecular Mechanisms	1
GMS 6252	Molecular Therapy II – Disease Targets and Applications	1
GMS 6253	Molecular Therapy III – Immunology of Gene Transfer	1
GMS 6290	Genetics/Genomics Program Graduate Seminar	1
GMS 6331	Stem Cell Biology	1
GMS 6335	Advanced Stem Cell Biology: Tissue Engineering	1
GMS 6336	Advanced Stem Cell Biology: Regenerative Medicine	1
GMS 6337	B Cell Development in Health and Disease	1
GMS 6338	Recent Advances in Cancer Metastasis	1
GMS 6350	Forensic Investigation	3
GMS 6351	Trauma Analysis	3
GMS 6352	Artifacts of Decomposition	3
GMS 6352L	Artifacts of Decomposition Laboratory	3
GMS 6353	Gross Anatomical Exam and Forensic Pathology	3
GMS 6354	Communication Skills in Forensic Science Context	3
GMS 6355	Traffic Homicide Investigation and Reconstruction	3
GMS 6356	Applied Osteology	3
GMS 6357	Forensic Photography	3
GMS 6357L	Forensic Photography Laboratory	3
GMS 6358	Forensic Medicine III	4
GMS 6359	Principles of Bloodstain Pattern Analysis	3
GMS 6359L	Principles of Bloodstain Pattern Analysis Laboratory	3
GMS 6360	Principles of Forensic Medicine I	4
GMS 6361	Principles of Forensic Medicine II	4
GMS 6362	Principles of Crime Scene Investigation	3
GMS 6362L	Principles of Crime Scene Investigation Laboratory	3
GMS 6363	Principles of Osteology	3
GMS 6364	Forensic Botany	3
GMS 6365	Principles of Forensic Psychology	3
GMS 6382	Special Topics in Immunology	1-3
GMS 6383	Current Topics in Immunotherapy	1
GMS 6400C	Principles of Physiology	6
GMS 6401	Medical Renal Physiology	2
GMS 6402	Medical Respiration Physiology	3
GMS 6405	Fundamentals of Endocrine Physiology	1
GMS 6406	Fundamentals of Pulmonary/Respiratory Physiology	1
GMS 6408	Fundamentals of Renal Physiology	1
GMS 6410	Physiology of the Circulation of Blood	2
GMS 6411	Fundamentals of Cardiovascular Physiology	1
GMS 6413	Advances in Hypertension Research	2
GMS 6414	Advanced Renal Physiology	2
GMS 6415	Fundamentals of Gastrointestinal Physiology	1
GMS 6419	Medical Endocrinology and Reproduction	3
GMS 6421	Cell Biology	4
GMS 6440	Fundamentals of Medical Physiology	1
GMS 6470	Adv. Respiration Physiology 1	3
GMS 6471	Fundamentals of Physiology and Functional Genomics I	1
GMS 6472	Fundamentals of Physiology and Functional Genomics II	1
GMS 6473	Fundamentals of Physiology and Functional Genomics III	1
GMS 6474	Medical Cardiovascular and Muscle Physiology	3
GMS 6475	Adv. Respiration Physiology 2	3
GMS 6476	Fundamentals of Skeletal Muscle	3

GMS 6479	Medical Gastrointestinal Physiology	2
GMS 6483	Theories of Aging	3
GMS 6484	Geriatric and Age Related Diseases	3
GMS 6485	Population Based Research on Aging	3
GMS 6486	Biology of Aging	3
GMS 6487	Anti-aging Interventions	3
GMS 6491	Journal Club in Physiology	1
GMS 6495	Seminar in Physiology	1
GMS 6504	Advanced Medical Pharmacology	2
GMS 6506	Biologic Drug Development	1
GMS 6510	Pharmacology of Cannabis, Tobacco, and Vaping	2
GMS 6520	Medical Pharmacology and Therapeutics I: The Nervous System	2
GMS 6530	Medical Pharmacology and Therapeutics II: Cardiovascular, Renal and Respiratory Systems	2
GMS 6531	Medical Pharmacology and Therapeutics III: Endocrine, Musculoskeletal and Reproductive Systems	2
GMS 6540	Medical Pharmacology and Therapeutics IV: Cancer, Antimicrobial and Antiparasitic Agents	2
GMS 6551	Fundamentals of Medical Pharmacology and Therapeutics	1
GMS 6552	Cell Signaling & Therapeutics	2
GMS 6560	Molecules to Man: Past, Present and Future Therapeutic Strategies for Disease	3
GMS 6590	Seminar in Pharmacology	1
GMS 6591	Communicating Pharmacology	1
GMS 6592	Ion Channels Journal Club: Pharmacology, Biophysics, and Neuroscience of Excitable Membranes	1
GMS 6594	Pharmacology Literature	1
GMS 6607C	Essential Human Anatomy	4
GMS 6609	Advanced Gross Anatomy	2-4
GMS 6610	Anatomy of the Peripheral Nervous System	3
GMS 6622	Mitochondrial Biology in Aging and Disease	2
GMS 6635	Organization of Cells and Tissues	3
GMS 6647	Transcriptional and Translational Control of Cell Growth and Proliferation	1
GMS 6683	Fundamentals of Vascular Physiology and Pathology	2
GMS 6690	Molecular Cell Biology Journal Club	1
GMS 6691	Special Topics in Cell Biology and Anatomy	1-4
GMS 6692	Research Conference in Anatomy and Cell Biology	1
GMS 6701	Functional and Comparative Neuroanatomy for Professionals	5
GMS 6705	Functional Human Neuroanatomy	4
GMS 6709		1
GMS 6711	Neurobiology of Pain	1
GMS 6712	Biological Clocks in Neural Health and Disease	3
GMS 6713	Neurobiol of Behav Disorders	3
GMS 6715	Healthy Aging: Behavioral and Clinical Outcomes	3
GMS 6717	Healthy Aging in The New Millennium	3
GMS 6740	Neuromuscular Diseases	3
GMS 6741	Neuropathology	1
GMS 6750	Molecular Pathobiology of Neural Disease	1
GMS 6757	Introduction to Alzheimer's Disease and Related Dementias: Clinical and Mechanistic Principles	2
GMS 6771	Clinical Neuroscience of Aging	3
GMS 6774		3
GMS 6780	Addiction: Neuroscience and Trends	3
GMS 6781	Foundations in Addiction and Substance Use Disorders	3
GMS 6782	Addiction: Clin Eval	3
GMS 6783	Addiction: Counseling and Treatment Methods	3
GMS 6784	Addiction: Referral	3
GMS 6785	Addiction:Pro Ethical	3
GMS 6790	New Developments in Neuroscience	2
GMS 6791	Visual Neuroscience Journal Club	1-2
GMS 6792	Neuroscience Graduate Research Seminar	1
GMS 6802	Health Outcomes Research for Chronic Diseases	3
GMS 6803	Data Science for Clinical Research	3
GMS 6804	Translational Bioinformatics	3
GMS 6805	Information Modeling in Biomedicine	3
GMS 6806	Security and Privacy for Clinical Research	3
GMS 6808	GeronTechnology	3
GMS 6812	Health Outcomes Research in Cancer	3
GMS 6813	Pragmatic Clinical Trials	3
GMS 6822	Measuring and Analyzing Health Outcomes II	3
GMS 6827	Advanced Clinical Trial Methods	3
GMS 6829	Longitudinal Research Design	2
GMS 6832		3
GMS 6833	Health Outcomes Research in Vulnerable Populations	3
GMS 6835		3
GMS 6836	Foundations of Learning Health Systems Research	1
GMS 6844		2
GMS 6846	Systematic Review and Meta-Analysis in Clinical, Health Services Research and Public Health	2
GMS 6847	Translational Research and Therapeutics: Bench, Bedside, Community, & Policy	3
GMS 6848	Ensuring Rigor and Reproducibility in Clinical and Translational Research	1
GMS 6850	Foundations of Biomedical Informatics	3
GMS 6851	Fundamentals of Dissemination and Implementation Research	3
GMS 6852	Community Engaged Research for Clinical Effectiveness and Implementation Science Studies	2
GMS 6853	Improvement and Implementation Science in the Learning Health System	3
GMS 6856	Introduction to Biomedical Natural Language Processing	3
GMS 6857	Clinical Decision Support Systems	3
GMS 6865	Quantitative Literacy for Translational Research	2
GMS 6867	Big Data for the Biologist	3
GMS 6873	Introduction to Medical Bioethics	3
GMS 6874	Medicine and the Law	3
GMS 6875	Ethical and Policy Issues in Clinical Research	2
GMS 6876	Law & Ethics of Aging	3
GMS 6885	Translational Health Research Design	3
GMS 6889	Systematic Review Methods	3

GMS 6893	Clinical and Translational Science Seminar Series	2
GMS 6895	CTS Journal Club	1
GMS 6896		1
GMS 6903	Manuscript and Abstract Writing for Clinician/Scientists	2
GMS 6905	Independent Studies in Medical Sciences	1-10
GMS 6910	Supervised Research	1-5
GMS 6920	Genetics Journal Colloquy	1
GMS 6921	Immunology/Microbiology Journal Colloquy	1
GMS 6934	Cancer Biology Data Discussion	1
GMS 6940	Supervised Teaching	1-5
GMS 6943	Master's Translational Biotechnology Internship	3
GMS 6945	Team Science	1
GMS 6951	Teaching Biomedical Science	2
GMS 6952	Curricular Models for Biomedical Science	3
GMS 6953	Art and Science of Mentoring	1
GMS 6954	Assessing Effectiveness of Biomedical Science Teaching and Curricula	3
GMS 6971	Research for Master's Thesis	1-15
GMS 6975	Team Science	1
GMS 7093	Introduction to Clinical and Translational Research	2
GMS 7122	Advanced Tropical Medicine	3
GMS 7133	Advanced Molecular Virology	2
GMS 7191	Research Conference	1
GMS 7192	Journal Colloquy	1
GMS 7194	Biotechnology Seminar	1-2
GMS 7593	Topics in Pharmacology and Toxicology	1-3
GMS 7794	Neuroscience Seminar	1
GMS 7795	Special Topics in Neuroscience	1-4
GMS 7858	Causal Artificial Intelligence for Health Research	3
GMS 7866	Principles of Referent Tracking in Biomedical Informatics	3
GMS 7877	Responsible Conduct of Biomedical Research	1
GMS 7886	Health Outcomes and Policy PhD Seminar: Applied Research	3
GMS 7887	Health Outcomes & Policy PhD Research Seminar	1
GMS 7906	Grant Writing for Health Outcomes Studies	2
GMS 7944	Practicum in Biomedical Science Education	3
GMS 7950	Fundamentals of Biomedical Science Education	2
GMS 7979	Advanced Research	1-12
GMS 7980	Research for Doctoral Dissertation	1-15

Student Learning Outcomes

Medical sciences (PHD)

SLO1 Knowledge
Students will identify and explain the core knowledge for the Interdisciplinary Program (genetics, cell biology, biochemistry/molecular biology) followed by concentration-specific core knowledge (genetics, molecular cell biology, immunology/microbiology, physiology/pharmacology, biochemistry/molecular biology, or neuroscience).
At the most basic level, this will include recognizing and explaining fundamental facts in the disciplines. At the intermediate level this will include explaining relationships between facts and explanation of mechanisms of biological processes. At the most advanced level this will include interpreting experimental data and designing experiments.

SLO2 Research Skills
Students will read, interpret and critically analyze published literature in their field to formulate hypotheses; design a technically sound and up-to-date experimental plan with appropriate controls; execute the experimental plan in a technically proficient manner; interpret the data; and then reformulate the hypotheses.

SLO3 Professional Behavior
Students apply professional behavior in their conduct of research, specifically identification and illustration of ethical conduct, including employment of appropriate safety, administrative, and regulatory rules

Medical Sciences (MS)

SLO1 Knowledge
Identifies, describes, and explains key concepts, study designs, and research methodologies necessary to conduct research in medical and health care disciplines

SLO2 Research
Explains research ideas, designs, and produces a scientifically sound clinical/translational research project in an ethically sound manner, which includes testable hypotheses and specific aims, presenting scientific relevancy, stating appropriate statistical and ethical considerations, detailing subject enrollment, data collection and analysis, and reporting how the project will lead to improvement of human health

SLO3 Professionalism
Organize activities that promote self-improvement, scientific teamwork, and improvement in human health

Faculty

Professor

- Berceli, Scott A.
- Beyth, Rebecca J.
- Carek, Peter J.
- Mehrad, Borna
- Morris, John Glenn
- Scali, Salvatore
- Wang, Gary P.
- Weiner, Irving David

Associate Professor

- Brown, Ashley Nicole
- Bryant, Andrew Justin
- Clark, David J.
- Nelson, Eric Jorge
- Sarder, Pinaki
- Sibille, Kimberly T.

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- Canales, Muna Thalji
- Shao, Wei

Clinical Associate Professor

- Becker, Torben Kim
- Lewis, Carol

Clinical Professor

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- Dang, Long Hoang
- Iovine, Nicole Marie

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- Kusmartsev, Sergey Alekseyevich

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- Artz, Mark Edward
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- Benos, Panagiotis
  Professor
- Bian, Jiang
  Professor
- Bizon, Jennifer L.
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- Blackband, Stephen John
  Professor
- Bloom, David C.
  Professor
- Bolch, Wesley Emmett
  Distinguished Professor
- Bolser, Donald Clementz
  Professor
- Borchelt, David R.
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- Bose, Prodip Kumar
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- Bova, Frank J.
  Distinguished Professor
- Boye, Shannon Elizabeth
  Professor
- Bruijnzeel, Adriaan Willem
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- Brusko, Todd Michael
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- Burke, Sara Nicole
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- Burns, Matthew
  Assistant Professor
- Byrne, Barry John
  Professor
- Cabrera, Roniel
  Associate Professor
- Candelario Jalil, Eduardo Jesus
  Associate Professor
- Casadesus Smith, Gemma
  Professor
- Chakrabarty, Paramita
  Associate Professor
- Chandran, Vijayendran
  Research Assistant Professor
- Coleman, Jason E.
  Research Assistant Professor
- Cusi, Kenneth
  Professor
- Dale, Erica Arden
  Assistant Professor
- Davey, Mary Ellen
  Courtesy Associate Professor
- De Crecy, Valerie Anne
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- De Kloet, Annette Diane
  Assistant Professor
- De Kosky, Steven Trent
  Professor
- Dehoff, Rhonda Marsha
  Associate Professor
- Deleyrolle, Loic Pierre
  Assistant Professor
- Dinculescu, Astra
  Assistant Professor
- Ding, Mingzhou
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- Dunn, William A.
  Professor
- Farrer, Matthew James
  Professor
- Febo Vega, Marcelo
  Associate Professor
- Flint, Jeremy Joseph
  Assistant Scientist
- Flores, Catherine
  Associate Professor
- Forghani, Reza
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- Foster, Thomas C.
  Professor
- Frazier, Charles Jason

Professor
- Fujii, Kotaro
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- Fuller, David
  Professor
- George, Thomas J.
  Professor
- Giasson, Benoit Ivan
  Professor
- Gilland, David R.
  Senior Lecturer
- Goldberger, Bruce A.
  Clinical Professor
- Gumus, Kazim Ziya
  Research Assistant Professor
- Gunduz, Aysegul
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- Guo, Yi
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- Harrison, Jeffrey K.
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- Hess, Christopher
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- Hoh, Brian Lim
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- Huang, Shuang
  Professor
- Ishov, Alexander M.
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- Janus, Christopher George
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- Johnson, Perry B.
  Clinical Associate Professor
- Johnson, Richard D.
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- Kaufmann, Christopher Norfleet
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- Keselowsky, Benjamin G.
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- Lakshmyya, Kesavalu Naidu
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- Lewis, John B.
  Assistant Professor
- Lewis, Jada M.
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- Lewis, Mark Henry
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- Li, Yuqing
  Professor
- Liao, Daiqing
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- Liu, Chihray
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- Ma, Zhe
  Assistant Professor
- Maldonado Molina, Mildred Merisa
  Professor
- Mandel, Ronald James
  Professor
- Manini, Todd M.
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- Marshall, Emily Lynn
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- Martindale, Mark Q.
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- Martyniuk, Christopher
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- Martynyuk, Anatoly Eugeny
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- Mitchell, Gordon Stewart
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- Mobley, Erin Michele
  Assistant Professor
- Muller, Keith E.
  Professor
- Neubert, John K.

Professor
- Nguyen, Cuong
  Associate Professor
- Nixon, Sara J.
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- O'Dell, Walter G.
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- Okun, Michael S.
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- Opavsky, Rene
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- Papke, Roger Lee
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- Rarey, Kyle E.
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- Sayour, Elias
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  Assistant Professor
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- Scindia, Yogesh M.
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- Seaver, Elaine C.
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- Semple-Rowland, Susan L.
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- Setlow, Barry
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- Shenkman, Elizabeth Ann
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- Sheremet, Alexandru Aurica
  Professor
- Shickel, Benjamin P.
  Assistant Professor
- Smith, Wesley Clay
  Professor
- Someya, Shinichi
  Associate Professor
- Srivastava, Arun
  Professor
- Stanifer, Megan Lynn
  Assistant Professor
- Staras, Stephanie Ann
  Associate Professor
- Streit, Wolfgang Jakob
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- Strother, James
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- Sutton, Lerah K.
  Other
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- Tansey, Mariadelourdes Gamez
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- Vogel, Walter B.
  Associate Professor
- Walker, Ashby Farmer
  Assistant Professor
- Wallet, Shannon Margaret

Professor

- Wang, Eric Tzy-Shi
  Associate Professor
- Wang, Ka W.
  Associate Professor
- Warren, Brandon Lee
  Assistant Professor
- Williamson, John Bonar
  Associate Professor
- Woods, Adam J.
  Associate Professor
- Wu, Jian
  Clinical Assistant Professor
- Wu, Lizi
  Professor
- Wu, Yonghui
  Associate Professor
- Wynn, James Lawrence
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- Xu, Jie
  Assistant Professor
- Yan, Guanghua
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- Zajac-Kaye, Maria
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- Zhang, Yawei
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- Zolotukhin, Serge
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- Zubcevic, Jasenka
  Assistant Professor