

Infection, Immunity, and Inflammation--Curriculum

Year 1				
Fall Semester (Register during Orientation)	Sep/Oct	Block 1	IBMS (2.5) Classic and 21st Century Pathogens (3) Critical Readings in Microbiology (0.5)	1st Rotation Oct/Nov/Dec (2)
	Nov/Dec	Block 2	IBMS (cont) (2.5) Molecular and Cell. Immunology (3) Critical Readings in Immunology (0.5)	
Spring Semester (Register in November)	Jan/Feb	Block 3	Molecular and Cell. Immunology (cont) (1) Elective	2nd Rotation Jan/Feb/Mar (2)
	Mar/Apr	Block 4	Advanced Concepts in I³ A (2) Elective	3rd Rotation Mar/Apr/May (2)
	May/June	Block 5	Advanced Concepts in I³ B (2) Respons. Conduct Research (“Ethics”) (1) Elective	
	Jul/Aug	Block 6	<i>Initiate Research with Mentor (use 4th rotation course number)</i>	
Year 2				
Fall Semester (Register in July)	Sep/Oct	Block 7	Research Design and Statistics (2) Professional Skills I (1) Research (2) Elective	
	Nov/Dec	Block 8	Grantsmanship Skills (2) Research (2) Elective	
Spring Semester (Register in November)	Jan/Feb	Block 9	Grantsmanship Skills (cont) Research (2) Elective	
	Mar/Apr	Block 10	<i>Candidacy Exam</i>	

Core Courses are indicated by bold, blue lettering; require grade point average of 3.0 or above.
All other **required courses** are indicated by bold, black lettering.

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43 Total Credits required to take the Candidacy exam = 11 core credits + 12 required credits + 6 Rotation credits + 6 Research credits + 8 elective credits (see below)

Elective courses. Each student must choose 8 credits from the courses listed below. At least 1 credit must come from Critical Readings in I³ (at least 2 courses), and at least 2 credits must come from Advanced Microbiology Courses (at least 1 course). Electives include courses required for completing the Subdiscipline in Neuroimmunology.

Only 1 “applied” course (indicated by an asterisk) will count toward the credit requirement. Note: on the face page, blocks that include “Elective” are suggested for scheduling convenience; electives are not required in every block.

I. Critical Readings in I³ C and D (pick at least 2-offering varies by year):

TIII 505CQ	Critical Readings in the Chemical Biology of Bacterial Pathogens
TIII 505DQ	Critical Readings in Antigenic Variation and Drug Resistance in Infectious Diseases
TIII 505EQ	Critical Readings in Parasitology
TIII 505FQ	Critical Readings in Tuberculosis
TIII 505GQ	Critical Readings in Immunologic Genomics
TIII 505JQ	Critical Readings in Virology

II. Advanced Microbiology Electives (pick at least 1):

MBGC 5055Q	Molecular Genetics of Model Organisms
TIII 5021Q	Molecular Pathogenesis of Bacteria
BIOC 5125Q	Viruses, Cells, and Disease

III. “At Large” electives:

CBMM 5002Q	Practical Approaches for Studying Protein Function*
CBMM 5020	Developmental Biology and Stem Cells
CBMM 5070Q	Histology Techniques*
CBMM 5350Q	Molecular Medicine of the Heart
CBMM N5001	Basic Histology*
CBNP 5033Q	Systems Neuroscience
CBNP 5034Q	Biology of Vascular Disease
CBNP 5036Q	Molecular Physiology of Cell Communication
CBNP 5037Q	Regenerative Medicine
CBNP 5068Q	Molecular Mechanisms of Disease
CBNP 5140Q	Topics in Neuroimmunology
CBNP 5150Q	Cellular and Developmental Neuroscience
CBNP 5160Q	Human Stem Cell Differentiation
CBNP 5255Q	Endocrinology of Growth and Metabolism
CBNP 5265Q	Heart Function and Pathophysiology
DENT 5145Q	Introduction to Structural Biology
DENT 5220Q	Methods in Microscopic Imaging*
GSND 5215Q	Animal Models of Human Disease*

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GSND 5235Q	Principles of Clinical & Translational Research in Oncology
GSND 5340Q	High Throughput Biomedical Data Analysis
GSND 5345Q	Fundamentals of Data Science
MBGC 5002Q	Introduction to Genomics, Proteomics, and Bioinformatics
MBGC 5015Q	Cancer Biology: Extrinsic Factors in Cancer Progression
MBGC 5020Q	Cancer Biology: Intrinsic Cell Signaling and Cancer Development
MBGC 5030Q	Protein Dynamics in Health & Disease
MBGC 5070Q	Nucleic Acids: Mechanisms and Regulation of RNA Synthesis
MBGC 5071Q	Nucleic Acids: DNA Structure, Interactions, & Replication Strategies
MBGC 5075Q	Cell Death
MSBS 5125Q	Teacher Training Internship*
MSBS 5130Q	Stem Cell Biology & Applications in Molecular Medicine
MSBS 520AQ	Advanced Stem Cell Seminar
MSBS N512Q	Topics in Cancer Stem Cell Biology
MSBS N5134	Hematopoietic Stem Cell Biology and Dysfunction
NEUR 5140	Topics in Neuroimmunology
NEUR 5200Q	Fundamentals of Neuroscience
NEUR 5240Q	Demyelinating Diseases
NEUR N5040	Neurobiology of Disease
PATH 5010Q	General Pathology
PATH 5100Q	Cellular Pathology
PATH 5130Q	DNA Repair in Health and Disease
PATH N5209	The Business of Science: Drug Development – From Molecules to Medicine
PHMS 5025Q	Microbial Biofilms
PHPY 5020	Principles of Pharmacology
PHPY 5085Q	Neuroendocrinology: Regulation of Physiological Processes
PHPY 5280	Gastrointestinal Physiology and Nutrition
PHPY N5021	Fundamentals of Pharmacology
PHPY N5225	Principles of Toxicology