

Molecular Biology, Genetics and Cancer Proposed Curriculum

Year 1			
Sep/Oct	Block 1	IBMS (2.5) GSND5200Q Critical Readings of the Literature BIOC 5290Q (1.5)	1st Rotation Oct/Nov/Dec (2) MBGC593A 2nd Rotation Jan/Feb/Mar (2) MBGC593B 3rd Rotation Mar/Apr/May (2) MBGC593C MBGC5910Q (Seminar course) through the year (0.5+0.5)
Nov/Dec	Block 2	IBMS (2.5) GSND5200Q Critical Readings of the Literature BIOC 5290Q (1.5) Elective	
Jan/Feb	Block 3	Required course (2) Elective or required course	
Mar/Apr	Block 4	Required course (2) Elective or required course	
May/Jun	Block 5	Ethics GSND 5001Q (1) Elective or required course	
Jul/Aug	Block 6	Initiate Research with Mentor (2)	
Year 2			
Sep/Oct	Block 7	Research (2) Elective (2)	
Nov/Dec	Block 8	Professional Skills—Presentations GSND 05960 (1) Experimental Design and Statistics GSND 5135Q (2) Research (2) Elective or Required Course (2)	
Jan/Feb	Block 9	Professional Skills—Grant Writing GSND 5006Q (2) Research (2)	
Mar/Apr	Block 10	Candidacy Exam	
May/Jun	Block 11	Thesis Research	
July/Aug	Block 12		

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Required Courses: Students should select 8 credits minimum from the following (can also be used as electives)

- Cellular Pathology-Lambert (2 cr Block 2/8)
- Molecular Genetics of Model Organisms **MBGC5055Q**-Kaback (2 cr Block 3)
- Protein Dynamics in Health and Disease **MBGC5030Q**-Suzuki (2cr Block 5)
- Nucleic Acids-Modak(2x2 cr, Blocks 7, 8)
- Cancer Biology-Moran/Ozer **MBGC 5015Q, MBGC 5020Q**(2x2cr Block 3/4)
- Bioinformatics, Genomics and Proteomics-Li/Tian **MBGC 5002Q** (2 cr Block 4)

Electives:

- Methods in Microscopic Imaging (2 cr) Existing Dental Course
- Metallic Systems in Biomaterials (2 cr) Existing Dental Course
- Polymeric Systems in Biomaterials (2 cr) Existing Dental Course
- Viruses, Cells and Disease **BIOC5125Q** (2cr)
- Animal Models of Human Disease **GSND 5215Q** (3 cr)
- Clinical Trials (2 cr) Existing course
- Advanced Bioinformatics **BIOC 5003Q** (2 cr)
- Human Genetics **MICR 5045Q** (2 cr)
- Molecular mechanisms of Medical Disorders (4 cr)
- Pharmacological Principles (1-2 cr)
- Signalling Mechanisms in Biological Systems **MBGC 5220Q** (2 cr)
- Methods in Stem cells, transgenics, imaging techniques (2 cr)
- Developmental Biology(2 cr)
- Structural Biology (1 cr)-Neiditch?
- General Pathology
- Introduction to Clinical Oncology (1 cr)
- Principles of Clinical and Translational Research in Oncology (2 cr)
- Neuroscience (2 x 2 cr)
- Classic and 21st Century Pathogens **TIII 5620Q** (2cr)
- Molecular and Cellular Immunology **PATH 5210Q** (3 cr)
- Foundations of Biochemistry and Molecular Biology **BIOC5007Q** (1cr)
- PLUS all Molecular Sciences Required Courses can serve as electives for this or other tracks

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Guided Curricula in:

- **Cancer Biology**
- **Gene Expression and Signalling**
- **Genomics and Bioinformatics**
- **Structural Biology**
- **Translational Research**