Cell Biology, Neuroscience and Physiology Proposed Curriculum

Year 1			
Sep/Oct	Block 1	**IBMS (2.5)** **Literature Readings (0.5)** Elective course(s)	**1st Rotation Oct/Nov/Dec (2)** **2nd Rotation Jan/Feb/Mar (2)** **3rd Rotation Apr/May/June (2)**
Nov/Dec	Block 2	**IBMS (2.5)** **Literature Readings (0.5)** Elective course(s)	
Jan/Feb	Block 3	**Molecular Physiology of Cell Communication (2)** **Literature Readings (0.5)** Elective course(s)	
Mar/Apr	Block 4	**Literature Readings (0.5)** Elective course(s)	
May/Jun	Block 5	**Ethics (1)** Elective course(s)	
Jul/Aug	Block 6	**Initiate Research with Mentor (2)**	
Year 2			
Sep/Oct	Block 7	**Research** Elective course(s)	
Nov/Dec	Block 8	**Experimental Design and Statistics (2)** **Professional Skills 1** (Presentations and Productivity) **(1)** **Research** Elective course(s)	
Jan/Feb	Block 9	**Professional Skills 2** (Grant Writing) **(2)** **Research** Elective course(s)	
Mar/Apr	Block 10	**Candidacy Exam** **Research** Elective course(s)	
May/Jun	Block 11	**Thesis Research**	
July/Aug	Block 12		

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Required Courses: Students must complete ALL of the following:

- GSND 5200Q - IBMS (5)
- CBNP 5036Q - Molecular Physiology of Cell Communication (2)
- GSND 5135Q - Experimental Design & Statistics (2)
- CBNP 593AQ, BQ, CQ - Lab Rotations A, B, & C (each lab rotation is worth 2 credits)
- CBNP 5155Q - Literature Readings (2)
- GSND 5001 - Ethics (1)
- GSND 0596Q - Professional Skills I & II (1 & 2)

Sub-discipline Curriculum: In addition to required courses, completion of indicated courses is required for designated sub-discipline to appear on transcript.

- **Neuroscience**
  - CBNP 5150Q - Cellular and Developmental Neuroscience (Wood & Levison) – 2 Cr, Block 2
  - CBNP 5033Q - Systems Neuroscience (Servatius) – 2 Cr, Block 4
  - CBNP 5032Q - Behavioral and Cognitive Neuroscience (Servatius) – 2 Cr, Block 5
- **Cardiovascular (Must take 2 out of 3 courses for this sub-discipline)**
  - CBMM 5350Q - Molecular Medicine of the Heart (Ho) – 3 Cr, Fall
  - CBNP 5265Q - Heart Function & Pathophysiology (Berlin) – 2 Cr, Block 4
  - CBNP 5034Q - Biology of Vascular Disease (Beuve & Duran) - 2 Cr, Block 5
- **Stem Cell Biology & Regenerative Medicine**
  - CBMM 5020Q - Developmental Biology & Stem Cells (Fraidenraich) – 2 Cr, Block 4
  - CBNP 5037Q - Regenerative Medicine (Levison & Moran) – 2 Cr, Block 5
  - MSBS 520AQ - Advanced Stem Cell Seminar (Rameshwar) – 2 Cr, Fall

Elective Courses: Students must complete at least 4 credits from elective courses

- CBNP 5020Q - Principles of Pharmacology (Sultatos) – 2 Cr, Fall, Block 1
- CBNP 5068Q - Molecular Mechanisms of Disease (Ivessa & Park) – 3 Cr, Fall
- PATH 5010Q - General Pathology (Studzinski) – 2 Cr, Block 1
- CBNP 5150Q - Cellular and Developmental Neuroscience (Wood & Levison) – 2 Cr, Block 2
- PATH 5100Q - Cellular Pathology (Lambert) – 2 Cr, Block 2 & Block 8
- NEUR 5170Q - Neurobiology of Learning and Memory (Servatius and Pang) – 2 Cr, Fall
- MSBS 520AQ - Advanced Stem Cell Seminar (Rameshwar) – 2 Cr, Fall
- MSBS 5130Q - Stem Cell Biology & Applications in Molecular Medicine (Rameshwar) – 3 Cr, Fall
- PATH N5209 - The Business of Science: Drug Development – From molecules & medicine (Ponzio) – 3 Cr, Fall
- CBMM 5350Q - Molecular Medicine of the Heart (Ho) – 3 Cr, Fall
- MBGC 5075Q - Cell Death (Birge) – Fall, 2 Cr
- NEUR 5040Q - Neurobiology of Disease (Elkabes and Beck), 3 Cr, Spring
- CBNP 5033Q - Systems Neuroscience (Servatius) – 2 Cr, Block 3
- CBNP 5265Q - Heart Function & Pathophysiology (Berlin) – 2 Cr, Block 4
- CBNP 5032Q - Behavioral and Cognitive Neuroscience (Servatius) – 2 Cr, Block 4
- CBNP 5260Q - Molecular Basis of Synaptic Disorders (McArdle), 1 Cr, Block 4
- CBNP 5034Q - Biology of Vascular Disease (Beuve & Duran), 2 Cr, Block 5
- CBNP 5037Q - Regenerative Medicine (Levison & Moran) – 2 Cr, Block 5
- CBNP 5250Q - Topics in Neurochemistry & Neuropharmacology (Ledeen & Kuzhikandathil), 2 Cr, Block 5
- CBNP 5255Q - Endocrinology of Growth & Metabolism (Illsley), 1 Cr, Block 5
- PATH 5210Q - Molecular and Cellular Immunology (Bocarsley) 3 Cr, Spring
- MSBS N512Q - Topics in Cancer Stem Cell Biology (Rameshwar) 2 Cr, Spring
- CBMM 5020Q - Developmental and Stem Cell Biology (Fraidenraich) 2 Cr, Spring
- CBNP 5140Q - Topics in Neuroimmunology (Rohowsky-Kochan), 1 Cr, Spring
- CBMM 5070Q - Histology Techniques (Pinhal-Enfield), 1 Cr, Spring
- NEUR 5240Q - Demyelinating Diseases (Wood), 1 Cr, Spring
- PHPY 5280Q - Gastrointestinal Physiology & Nutrition (Ferraris), 1 Cr, Spring, Block 5
- PHPY 5085Q - Neuroendocrinology: Regulation of Physiological Processes (Routh), 1 Cr, Block 4