

## Courses that may satisfy MCIP requirements - pending advisor approval

(as of 1/28/15)

**Consult the Class Schedule for course availability**

**SUBSPECIALTY AREAS---9 units and three courses minimum two of which must be 200 level**

Note: Veterinary and Medical School 400 courses, upon written approval of professor and advisor, can be used to satisfy the sub-specialty course requirements

Dept. Code	Course Number	Qtr Offered	Units	Title	Department	Comments
<b>CARDIORESPIRATORY</b>						
BIM	214	W	4	Blood Cell Biomechanics	Engineering: Biomedical Engineering	
CAR	220	S (alt)	1	Basic Science in Cardiology	Internal Medicine: Cardiology	
CLH	230	W	3	Congestive Heart Failure, Mechanism of Disease	Medicine: Clinical Research	Part of DE in Translational Research
HON	298	all	1-4	Topics in Hematology	Internal Medicine: Hematology-Oncology	
NPB	113	F	4	Cardiovascular, Respiratory & Renal Physiology	Neurophysiology, Physiology & Behavior	
NPB	127	W (irregular)	3	Comparative Physiology: Circulation	Neurophysiology, Physiology & Behavior	Last offered 200801
PHA	208	S	3	Advanced Cardiac Physiology and Pharmacology		
VMB	254	W (alt)	3	Toxicology of the respiratory system		
<b>CELLULAR</b>						
ANG	111	F	4	Molecular Biology Laboratory Techniques	Animal Genetics	
AVS	103	F	3	Avian Development and Genetics	Avian Sciences	
BCB	210	F	3	Molecular Genetics and Genomics	BMCDB Graduate Group	Formerly MCB 210
BCB	212	W	4	Cellular Biochemistry	BMCDB Graduate Group	Formerly MCB 221D
BCB	213	W	3	Developmental Biology	BMCDB Graduate Group	Formerly MCB 213
BCB	214	S	3	Molecular Biology	BMCDB Graduate Group	Formerly MCB 214
BCB	214	S	4	Molecular Biology	BMCDB Graduate Group	Formerly MCB 221C
BCB	255	F (alt)	3	Molecular Mechanisms in Pattern Formation and Development	BMCDB Graduate Group	Formerly MCB 255
BCB	256	F	2	Cell and Molecular Biology of Cancer	BMCDB Graduate Group	Formerly MCB 256
BCB	257	F	3	Cellular Proliferation and Cancer Genes	BMCDB Graduate Group	Formerly MCB 257
BPH	241	S	3	Membrane Biology	Biophysics	
EXB	110	S	3	Exercise Metabolism	NPB: Exercise Biology	
EXB	126	W	3	Tissue Mechanics	NPB: Exercise Biology	
MCB	145	S	3	Assembly and Function of Cell Signaling Machinery	Molecular Cellular Biology	
MCB	161	W	3	Molecular Genetics	Molecular Cellular Biology	Last offered 201101
MCB	163	W	3	Developmental Genetics	Molecular Cellular Biology	
MCB	140L	W	5	Cell Biology Laboratory	Molecular Cellular Biology	
MCP	219	S (alt)	3	Muscle Growth and Development	MCIP Graduate Group	Last offered 201003
MCP	234	S	3	Current Topics in Neurotoxicology	MCIP Graduate Group	Same as ETX 234
MCP	255	S	2	Physiology of the Stress Response	MCIP Graduate Group	
MIC	140	F	3	Bacterial Physiology	Microbiology	Last offered 201110
MIC	215	F	3	Recombinant DNA	Microbiology	
NPB	103	W (irregular)	3	Cellular Physiology/Neurobiology	Neurophysiology, Physiology & Behavior	Last offered 201001
NSC	221	F	4	Cellular Neurophysiology	Neuroscience	
NSC	243	S	2	Topics in Cellular and Behavioral Neurobiology	Neuroscience	

NSC	224A	W	2	Molecular and Developmental Neurobiology	Neuroscience	
NSC	224B	S	2	Molecular and Developmental Neurobiology	Neuroscience	
PHA	207	W	3	Drug Discovery and Development		
PHA	250	S	3	Functional Genomics: From Bench to Bedside		

#### COMPARATIVE

ANS	123	S	4	Animal Growth and Development	Animal Science	
ANS	124	W	4	Lactation	Animal Science	
BIM	227	W	4	Research Techniques in Biomechanics	Engineering: Biomedical Engineering	Last offered 201101
BIM	231	S	4	Musculo-Skeletal System Biomechanics	Engineering: Biomedical Engineering	
EDO	240	S	3	Biochemical Endocrinology	Endocrinology	
ENT	102	W	4	Insect Physiology	Entomology	
ENT	292	all (irregular)	2	Seminar in Insect Physiology	Entomology	
MCP	220	S	3	General and Comparative Physiology of Reproduction	MCIP Graduate Group	
MCP	242	F	3	Biological Rhythms	MCIP Graduate Group	
NPB	117	S	3	Avian Physiology	Neurophysiology, Physiology & Behavior	
NPB	121	W	4	Physiology of Reproduction	Neurophysiology, Physiology & Behavior	
NPB	123	W	4	Comparative Vertebrate Organology	Neurophysiology, Physiology & Behavior	
NPB	127	W (irregular)	3	Comparative Physiology: Circulation	Neurophysiology, Physiology & Behavior	Last offered 200801
NPB	128	Summer	3	Comparative Physiology: Endocrinology	Neurophysiology, Physiology & Behavior	Summer offering
NPB	130	F	4	Physiology of the Endocrine Glands	Neurophysiology, Physiology & Behavior	
NPB	140	W	3	Principles of Environmental Physiology	Neurophysiology, Physiology & Behavior	
NPB	141P	S	5	Physiological Adaptation of Marine Organisms	Neurophysiology, Physiology & Behavior	Residency at BML required
NSC	201	F	3	Neuroanatomy	Neuroscience	
NUT	202	S	2	Advanced Nutritional Energetics	Neurophysiology, Physiology & Behavior	
NUT	254	W (alt)	3	Applications of Systems Analysis in Nutrition	Neurophysiology, Physiology & Behavior	Last offered 201001
WFC	130	W	4	Physiological Ecology of Wildlife	Wildlife, Fish & Conservation Biology	

#### DEVELOPMENT

MCB	263	W	2	Biotechnology Fundamentals and Application		
MCB	258	W	2	Seminar in Development		Last offered 201101
NSC	224A	W	2	Molecular and Developmental Neurobiology	Neuroscience	
NSC	224B	S	2	Molecular and Developmental Neurobiology	Neuroscience	

#### ENDOCRINOLOGY

EDO	218	S	4	Mammalian Endocrinology and Homeostasis	Endocrinology	Last offered 200803
EDO	220	F/W/S	1	Endocrinology Literature Critique	Endocrinology	
EDO	240	S	3	Biochemical Endocrinology	Endocrinology	
NPB	128	Summer	3	Comparative Physiology: Endocrinology	Neurophysiology, Physiology & Behavior	Summer offering
NPB	130	F	4	Physiology of the Endocrine Glands	Neurophysiology, Physiology & Behavior	
NPB	152	S	3	Hormones and Behavior	Neurophysiology, Physiology & Behavior	

#### EXERCISE

BIM	126	W	3	Tissue Mechanics	Engineering: Biomedical Engineering	
BIM	227	W	4	Research Techniques in Biomechanics	Engineering: Biomedical Engineering	Last offered 201101
BIM	228	F	4	Skeletal Muscle Mechanics: Form, Function, Adaptability	Engineering: Biomedical Engineering	
BIM	231	S	4	Musculo-Skeletal System Biomechanics	Engineering: Biomedical Engineering	

BIM	232	S	3	Skeletal Tissue Mechanics	Engineering: Biomedical Engineering	
EXB	110	S	3	Exercise Metabolism	NPB: Exercise Biology	
EXB	111	W	3	Environmental Effects on Physical Performance	NPB: Exercise Biology	
EXB	112	W	4	Clinical Exercise Physiology	NPB: Exercise Biology	
EXB	115	F	3	Biomechanical Bases of Movement	NPB: Exercise Biology	
EXB	124	W	4	Physiology of Maximal Human Performance	Neurophysiology, Physiology & Behavior	
EXS	201	F	3	Exercise Cardioresp Physiol	MCIP Graduate Group	
EXS	206	S	3	Exercise Metabolism	MCIP Graduate Group	
MCP	242	F	3	Biological Rhythms	MCIP Graduate Group	
NPB	123	W	4	Comparative Organology of Vertebrates	Neurophysiology, Physiology & Behavior	
NPB	130	F	4	Physiology of the Endocrine Glands	Neurophysiology, Physiology & Behavior	
NPB	140	W	3	Principles of Environmental Physiology	Neurophysiology, Physiology & Behavior	
NUT	112	S	3	Nutritional Assessment	Nutrition	
NUT	202	S	2	Advanced Nutritional Energetics	Nutrition	
NUT	253	S (alt)	3	Control of Food Intake	Nutrition	

#### IMMUNOLOGY

IMM	201	F	4	Introductory Immunology		
IMM	293	W	4	Current Concepts in Immunology		

#### NEUROPHYSIOLOGY

CHA	203	S	4	Neurobiology	Medicine: Cell Biology & Human Anatomy	
MCP	234	S	3	Current Topics in Neurotoxicology	MCIP Graduate Group	Same as ETX 234
NPB	103	W (irregular)	3	Cellular Physiology/Neurobiology	Neurophysiology, Physiology & Behavior	Last offered 201001
NPB	104L	W	4	Cellular Physiology/Neurobiology Laboratory	Neurophysiology, Physiology & Behavior	
NPB	161	W	3	Developmental Neurobiology	Neurophysiology, Physiology & Behavior	
NPB	162	S	3	Neural Mechanisms of Behavior	Neurophysiology, Physiology & Behavior	
NPB	163	S	3	Systems Neuroscience	Neurophysiology, Physiology & Behavior	
NPB	222	W	5	Systems Neuroscience	Neurophysiology, Physiology & Behavior	same course as NSC 222
NSC	222	W	5	Systems Neuroscience	Neuroscience	same course as NPB 222
NSC	223	S	4	Cognitive Neuroscience	Neuroscience	
NSC	243	S	2	Topics in Cellular and Behavioral Neurobiology	Neuroscience	Last offered 200003
NSC	250	S	2	Biology of Neuroglia	Neuroscience	Last offered 200004
NSC	283	all	1	Neurobiological Literature	Neuroscience	Last offered 200910
NSC	221	F	4	Cellular Neurophysiology	Neuroscience	
PSC	208	S	4	Physiological Psychology	Psychology	Last offered 201203

#### REPRODUCTION

ANS	127	S	3	Advanced Equine Reproduction	Animal Science	
BCB	251	F (alt)	3	Molecular Mechanisms in Early Development	BMCDB Graduate Group	DE - Formerly MCB 251
BCB	255	S (alt)	3	Molecular Mechanisms in Animal Development	BMCDB Graduate Group	Formerly MCB 255
EDO	218	S	4	Mammalian Endocrinology and Homeostasis	Endocrinology	Last offered 200803
EDO	240	S	3	Biochemical Endocrinology	Endocrinology	
ETX	250	W (alt)	3	Reproductive Toxicology	Environmental Toxicology	DE
MCP	220	S	3	General and Comparative Physiology of Reproduction	MCIP Graduate Group	DE
MCP	222	S	3	Mammalian Gametogenesis and Fertilization	MCIP Graduate Group	DE
NPB	121	W	4	Physiology of Reproduction	Neurophysiology, Physiology & Behavior	
NPB	130	F	4	Physiology of the Endocrine Glands	Neurophysiology, Physiology & Behavior	

NPB	121L	W	1	Physiology of Reproduction Laboratory	Neurophysiology, Physiology & Behavior	
<b>SYSTEMIC</b>						
APC	291	all	1	Topics in Biology of Respiratory System	Vet Med: Anatomy, Physiology & Cell Biology	
BIM	227	W	4	Research Techniques in Biomechanics	Engineering: Biomedical Engineering	Last offered 201101
BIM	228	F	4	Skeletal Muscle Mechanics: Form, Function, Adaptability	Engineering: Biomedical Engineering	
BIM	231	S	4	Musculoskeletal System Biomechanics	Engineering: Biomedical Engineering	
EXB	110	S	3	Exercise Metabolism	NPB: Exercise Biology	
EXB	111	W	3	Environmental Effects on Physical Performance	NPB: Exercise Biology	
EXB	124	W	4	Physiology of Maximal Human Performance	Neurophysiology, Physiology & Behavior	
MCP	220	S	3	General and Comparative Physiology of Reproduction	MCIP Graduate Group	
MCP	242	F	3	Biological Rhythms	MCIP Graduate Group	
MCP	255	S	2	Physiology of the Stress Response	MCIP Graduate Group	
NPB	112	irregular	3	Neuroscience	Neurophysiology, Physiology & Behavior	Last offered 201101
NPB	113	F	4	Cardiovascular, Respiratory & Renal Physiology	Neurophysiology, Physiology & Behavior	
NPB	114	F	3	Gastrointestinal Physiology	Neurophysiology, Physiology & Behavior	
NPB	117	S	3	Avian Physiology	Neurophysiology, Physiology & Behavior	
NPB	121	W	4	Physiology of Reproduction	Neurophysiology, Physiology & Behavior	
NPB	127	W (irregular)	3	Comparative Physiology: Circulation	Neurophysiology, Physiology & Behavior	Last offered 200801
NPB	128	Summer	3	Comparative Physiology: Endocrinology	Neurophysiology, Physiology & Behavior	Summer offering
NPB	130	F	4	Physiology of the Endocrine Glands	Neurophysiology, Physiology & Behavior	
NPB	140	W	3	Principles of Environmental Physiology	Neurophysiology, Physiology & Behavior	
NPB	160	S	3	Molecular and Cellular Neurobiology	Neurophysiology, Physiology & Behavior	Last offered 201003
NPB	161	W	3	Developmental Neurobiology	Neurophysiology, Physiology & Behavior	
NPB	162	S	3	Neural Mechanisms of Behavior	Neurophysiology, Physiology & Behavior	
NPB	163	S	3	Systems Neuroscience	Neurophysiology, Physiology & Behavior	
NPB	168	S	4	Neurobiology of Addictive Drugs	Neurophysiology, Physiology & Behavior	
NPB	132	F	3	Nature vs. Nurture: Physiological Interactions Among Genes, Nut	Neurophysiology, Physiology & Behavior	
NSC	222	W	5	Systems Neuroscience	Neuroscience	
NSC	223	S	4	Cognitive Neuroscience	Neuroscience	
PTX	201	F	5	Principles of Pharmacology and Toxicology I	Pharmacology & Toxicology	
PTX	202	W	4	Principles of Pharmacology and Toxicology II	Pharmacology & Toxicology	
PTX	203	S	4	Principles of Pharmacology and Toxicology III	Pharmacology & Toxicology	
WFC	102	S	1	Field Studies in Fish Biology	Wildlife, Fish and Conservation Biology	
WFC	120	F	3	Biology and Conservation of Fishes	Wildlife, Fish and Conservation Biology	
<b>STATISTICS</b>						
EPI	204A	W	4	Foundation of statistical models, methods, and data analysis for scientists		
MPM	402	F	5	Medical Statistics I	Vet Med: Preventive Veterinary Medicine	
MPM	403	W	3	Medical Statistics II	Vet Med: Preventive Veterinary Medicine	
PHR	202	W (alt)	3	Sampling in Health-Related Research	Vet Med: Population Health & Reproduction	
PHR	203	W (alt)	3	Multivariate Biostatistics	Vet Med: Population Health & Reproduction	
PLS	205	W	5	Experimental Design and Analysis	Plant Sciences	
PLS	206	F	4	Applied Multivariate Modeling in Agricultural and Environmental S	Plant Sciences	
PLS	120	F	4	Applied Statistics in Agricultural Science	Plant Sciences	
STA	100	all	4	Applied Statistics for Biological Sciences	Statistics	
STA	106	F/W	4	Applied Statistical Methods: Analysis of Variance	Statistics	
STA	108	all	4	Applied Statistical Methods: Regression Analysis	Statistics	

STA	130A	F	4	Mathematical Statistics: Brief Course	Statistics	
STA	130B	W	4	Mathematical Statistics: Brief Course	Statistics	
STA	131A	all	4	Introduction to Probability Theory	Statistics	
STA	131B	all	4	Introduction to Mathematical Statistics	Statistics	
STA	131C	S	4	Introduction to Mathematical Statistics	Statistics	
STA	135	S	4	Multivariate Data Analysis	Statistics	
STA	137	S	4	Applied Time Series Analysis	Statistics	

### STRUCTURAL, MOLECULAR, ANATOMY & LAB

ANG	111	F	4	Molecular Biology Laboratory Techniques	Animal Genetics	
ANS	137	F, S	2	Animal Biochemistry Laboratory	Animal Science	Lab
APC	100	W	4	Comparative Organology of Vertebrates	Vet Med: Anatomy, Physiology & Cell Biology	same as NPB 123
BCB	214	S	3	Molecular Biology	BMCDB Graduate Group	Lecture Formerly MCB 214
CHA	101	W	4	Human Gross Anatomy	Medicine: Cell Biology & Human Anatomy	Lecture
CHA	101L	W	3	Human Gross Anatomy Laboratory	Medicine: Cell Biology & Human Anatomy	Lab
CHA	200	W	6	Graduate Human Gross Anatomy	Medicine: Cell Biology & Human Anatomy	Both
CHA	202	W	5	Human Microscopic Anatomy	Medicine: Cell Biology & Human Anatomy	Both
ENT	100	F/S	4	General Entomology	Entomology	Lecture
ENT	100L	F	2	General Entomology Laboratory	Entomology	Lab
EVE	105	W	4	Phylogenetic Analysis of Vertebrate Structure	Evolution & Ecology	Lecture
MCB	121	all	3	Advanced Molecular Biology	Molecular and Cellular Biology	Lecture
MCB	120L	all	6	Molecular Biology and Biochemistry Laboratory	Molecular and Cellular Biology	Both
MCB	140L	W	5	Cell Biology Laboratory	Molecular and Cellular Biology	Lab
MCP	200L	W	4	Animal Cell Culture	MCIP Graduate Group	Lab
MCP	215	S	3	Electrophysiology Techniques and Applications	MCIP Graduate Group	Lab
NPB	104L	W	4	Cellular Physiology/Neurobiology Laboratory	Neurophysiology, Physiology & Behavior	Lab
NPB	111L	F	4	Advanced Systemic Physiology Laboratory	Neurophysiology, Physiology & Behavior	Lab
NSC	201	F	3	Neuroanatomy	Neuroscience	Lab
PLS	211	S	2	Principles and Practices of HPLC	Plant Sciences	Lab / Last offered 200903