

Approved Life Science Courses - Generated by Dr. David Vorp - current as of 03/17/09

<u>Name of Course</u>	<u>Course Number</u>	<u>Instructor</u>	<u>Short Description</u>
Cell and Molecular Physiology	MSPSY 2830		
Molecular and Cell Biology and Biophysics I & 2	BioE 2520/2521	Roy	2520 is required and 2521 is strongly recommended
Functional Neuromuscular Stimulation	HRS 2710		
Introduction to Cell Mechanobiology	BioE 2065	Wang, James	
Functional Neuroanatomy	NROSCI 2011		
Intro to Cell and Molecular Biology	BME and BioE 2500	Koepsel, Rich	
Cellular and Molecular Physiology	MSCBMP 2830		
Molecular Mechanisms of Tissue Growth and Diff.	MSCBMP 2730		
Stem Cells	MSCBMP 3740	Monga, Paul	
A Systems Approach to Inflammation	MSCMP 3780	Vodovotz, Yoram	
Cellular and Molecular Neurobiology	NROSCI 2100		
Cortical Physiology Seminar	MSNBIO 3121		
Cell andMolecular Neuroscience	NRSOCI 2002		
Cognitive Neuroscience	NRSOCI 2005		
Immunology	BioSci 2070		
Introduction to Computational Structural Biology	MSCBIO 2030/ CMPBIO 2030 --	Zuckerman	
Molecular Biophysics 2: Theory and Simulation	MSMBPH/MOLBPH 2002	Zuckerman	
Eukaryotic Molecular Genetics			
Selected Topics in Anatomy	HRS 2301		
Topics in Integrative Physiology	MSCBMP 2820		
Systems Neuroscience	NRSCI 2102		
			The purpose of this course is to provide the student with the basic principles of nutrition as it relates to health, fitness, and sport. The student should then be able to apply this knowledge in evaluating an active individual's diet and be able to make some general nutritional recommendations. This course will use a lecture based format, as well as several small projects, in order to facilitate adoption of the material. Students are required to assume partial responsibility for learning material through reading and reviewing the text and completion of the projects. Taught by ~24 different lecturers. First half of class covers basic cancer biology and genetics, while second half covers cancer therapeutics such as chemotherapeutics, etc.
Nutrition in Sport and Exercise	HPRED 2390	Otto, Amy	
Cancer Biology and Therapeutics	MSCMP 3710		
			This course is organized in a modular format to examine in depth five human diseases of various tissue origin. Faculty will present the clinical presentation of patients with each disease, discuss the pathologic findings and molecular mechanisms underlying the disease, and the latest molecular techniques utilized in the diagnosis and treatment for each disease. Students will present papers relevant to the disease topics and be graded on their classroom participation and presentations. The human diseases covered in this course will change from year to year.
Molecular Pathobiology	MSCMP 2740	Oury, Tim	
Biochemistry for Engineers	BIOE 2???	Koepsel, Rich	
			Angliogenesis vs. Vasculogenesis; Angiogenesis in Physiological and Pathological Process; Endothelial Biology; Vasculogenesis; Angiogenesis in Development and Organogenesis; Angiogenesis in Wound Healing and Ischemic Diseases (Limb, Brain & Heart); Coagulation and Thrombolysis; Atherosclerosis; Lymphoangiogenesis and Its Diseases; Regulation of Angiogenesis; VEGF Pathways
Angiogenesis: MOLECULAR PATHWAYS AND PATHOPHYSIOLOGICAL FUNCTIONS	MSCMP 3750	various	

Laboratory Techniques in Sports Medicine	HRS 3898	McCroy, Jean	<p>musculoskeletal anatomy and neuromuscular & exercise physiology and to apply it to basic human movements; thought to be appropriate for BioEngineering graduate students who have not had prior courses in anatomy or physiology</p> <p>This course will provide a detained and sequential approach to understanding the static and dynamic structures responsible for joint stability. The biomechanical and sensory role of articular structures will be discussed related to primary and secondary restraints to joint stability. Discussion will be divided into specific structures providing stability to the knee, ankle, and shoulder, focusing on the pathokineioslogy of specific orthopedic injuries. The curse will include current concepts and theory related to neuromuscular control of these conditions and the role of rehabilitation in reestablishing functional stability.</p>
Pathokinesiology of Orthopedic and Athletic Injuries	HRS 2867	Myers, Joseph	<p>This course will discuss the neural control of movement in detail, including planning of movement in the cortex, relay of motor commands to the brainstem and spinal cord, coordination of movement by the cerebellum, adjustment of movement via brainstem and spinal cord reflexes, and execution of movement through contraction of muscle fibers. Attention will be given to both basic science and clinical issues in motor control.</p>
Control of Movement Human Anatomy and Imaging Human Physiology Cell Therapy Molecular Biophysics 1 (Biophysical Methods) Molecular Biophysics 3 (Biomolecular Interactions and Dynamics)	NROSCI 2035 BIOE 3702: NROSCI 207 MSCMP 3770 MSMBPH/MOLBPH 2002 MSMBPH/MOLBPH 2003	Sommer Hostler Yates Klein-Seetharaman, Leuba	