Course Schedule - Spring 2008

Physics

199 ***Undergraduate Open Seminar*** credit: 1 to 5 hours.
Approved for both letter and S/U grading. May be repeated.

CRN	Type	Section	Time	Days	Location	Instructor
10145	independent study		ARRANGED			
10145: Independent StudyInstructor Approval RequiredINDEPENDENT STUDY. To register for independent study under PHYS 199, use the PHYS 199 CRN (available from the departmental undergraduate records office) specific to the instructor with whom you have arranged to work. (You cannot register under the general CRN 10145.)						
40292	laboratory-discussion	BCS	04:00 PM - 05:20 PM	T	room 257 Loomis Laboratory	Hubler, A
40292: 1 hours Behavior of Complex SystemsDiscovery course.EXPLORING THE BEHAVIOR OF COMPLEX SYSTEMS: CHAOS, FRACTALS AND ARTIFICIAL LIFE, 1 hour. The behavior of complicated systems with many parts will be explored with hands-on computer simulations and lab experiments. Students will experiment with lightning, turbulence, explosions, and human rhythms and use simple computer models to imitate their irregular and symmetric patterns and dynamics and will develop an intuition as to why isolated complex systems prefer harmony and symmetry whereas competing complex systems prefer chaos. Applications in business, engineering, and social sciences will be discussed. First Year Discovery Program Course. Registration restricted to freshmen. Students should enroll in only one Discovery course.						
40293	laboratory-discussion	ESP	04:00 PM - 05:20 PM	T	room 144 Loomis Laboratory	Pitts, K
40293: 1 hours Science and PseudoscienceDiscovery course.SCIENCE AND PSEUDOSCIENCE, 1 hour. The world we live in continues to develop at an amazing rate, with much of that development fueled by science and technology. Despite the overwhelming impact that scientific advances have on our society, a large number of people continue to hold irrational, unsupported beliefs in things like extrasensory perception, alien abductions and psychic crime-solvers. This one hour course will take a critical look at some of these beliefs from the standpoint of scientific inquiry and exploration. We will discuss the scientific method, how science progresses and the types of argumentative fallacies that pervade the pseudoscientific community. In addition, we will discuss examples of good science, and show how the scientific method is self-correcting. Students will have an opportunity to research paranormal claims, as well as play "devil's advocate" during in-class debates. This course is aimed at nonscientists (although science majors could benefit from the course as well) with the specific goals of teaching students how to be thoughtful, skeptical consumers of information and the importance of the scientific method. First Year Discovery Program Course. Registration restricted to freshmen. Students should enroll in only one Discovery course.						
38670	lecture-discussion	HM	10:00 AM - 11:50 AM	M	room 257 Loomis Laboratory	Peng, J
38670: 1 hours Honors MechanicsHONORS SEMINAR: TOPICS IN MECHANICS. PREREQUISITES: CONCURRENT REGISTRATION IN PHYS 211 AND CONSENT OF INSTRUCTOR. PHYS 199HM CAN BE USED TO SATISFY THE HONORS COMPONENT OF PHYS 211. PHYS 199HM is the honors supplement to PHYS 211 and is intended for those students intending to major in physics or who have a strong interest in the subject. Areas to be addressed include rotational and central force motion, non-inertial frames, non-linear						

systems and post-Newtonian mechanics. The use of simple visualization tools such as Mathematica and Excel will be encouraged.

38671	lecture-discussion	HO	01:00 PM - 02:50 PM	M	room 139 Loomis Laboratory	Peng, J
38671: 1 hours Honors Electricity & MagnetismHONORS SEMINAR: TOPICS IN ELECTRICITY AND MAGNETISM. PREREQUISITES: PHYS 211, CONCURRENT REGISTRATION IN PHYS 212, AND CONSENT OF INSTRUCTOR. PHYS 199HO CAN BE USED TO SATISFY THE HONORS COMPONENT OF PHYS 212. Students investigate special topics in electricity and magnetism. Through weekly meetings (similar in format to the discussion sections of Physics 211 and 212), students will derive for themselves some of the surprising features of our post-classical physical world. For example, the need for special relativity, the existence of magnetic fields, and the origin of electromagnetic radiation are consequences of simple observations such as the constancy of the speed of light. Other topics will include the nature of Gauss' law and Maxwell's equations, potentials and superposition, amplifiers, analog computers, and the role of quantum mechanics in electrodynamics. PHYS 199HO is intended for students who have been comfortable with the level of difficulty of PHYS 211, and whose math skills are fairly strong. It allows students to confront in greater depth some of the most interesting intellectual issues in classical electrodynamics. The course will use calculus as a problem-solving tool.						
38673	discussion-recitation	M1	10:00 AM - 11:50 AM	R	room 234 Loomis Laboratory	Putman, R
38673: 1 hours Enrichment MechanicsSection M1 (or M2 or M3 or M4) is only for students taking Spring 2008 PHYS 211 who took Fall 2007 PHYS 100.						
38563	discussion-recitation	M2	01:00 PM - 02:50 PM	R	room 234 Loomis Laboratory	Strand, N
38563: 1 hours Enrichment MechanicsSection M2 (or M1 or M3 or M4) is only for students taking Spring 2008 PHYS 211 who took Fall 2007 PHYS 100.						
38564	discussion-recitation	M3	03:00 PM - 04:50 PM	R	room 234 Loomis Laboratory	Putman, R
38564: 1 hours Enrichment MechanicsSection M3 (or M1 or M2 or M4) is only for students taking Spring 2008 PHYS 211 who took Fall 2007 PHYS 100.						
41744	discussion-recitation	M4	05:00 PM - 06:50 PM	R	room 234 Loomis Laboratory	Smith, A
41744: 1 hours Enrichment MechanicsSection M4 (or M1 or M2 or M3) is only for students taking Spring 2008 PHYS 211 who took Fall 2007 PHYS 100.						
46682	laboratory-discussion	POM	01:00 PM - 02:50 PM	F	room 6105 Engineering Sciences Bldg	Errede, S
46682: 2 hours Physics of Music & InstrumentsDiscovery course.PHYSICS OF MUSIC / PHYSICS OF MUSICAL INSTRUMENTS, 2 hours. This course will cover the following topics and will have accompanying lab demonstrations and experimental setups for hands-on direct learning experiences for the students: the physics of sound (propagation of sound waves), the physics of hearing (psycho-acoustics), the physics of music (all musical styles, and music in the natural world -- living organisms and physical processes), the physics of musical instruments (brass, wind, strings percussion, song, electronic, computer and beyond). First Year Discovery Program Course. Registration restricted to freshmen. Students should enroll in only one Discovery course.						