PHYSICS

Astronomy

ASTRONMY 112 INTRODUCTION TO ASTRONOMY (GL) ... An examination of concepts regarding the organization of the universe. The solar system, astronomical principles and instruments, stellar evolution and galaxies are among topics covered. Activities include field trips, observations of the night sky and of the sun with telescopes, and laboratory work. Four one-hour lectures and one two-hour laboratory/observation period per week. There are two required evening observation sessions during the semester.

COREQ: MATH 141 OR WAIVER

#3548 Section 01 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*M*	*09:00 AM - 10:50 AM*	*UH0050*	*Juliana T Constantinescu*
01/19-05/17	*MTWR*	*02:00 PM - 02:50 PM*	*UH0141*	*Juliana T Constantinescu*

#3549 Section 02 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*M*	*11:00 AM - 12:50 PM*	*UH0050*	*Juliana T Constantinescu*
01/19-05/17	*MTWR*	*02:00 PM - 02:50 PM*	*UH0141*	*Juliana T Constantinescu*

ASTRONMY 114 DESCRIPTIVE ASTRONOMY (GM) ... A non-laboratory course that introduces the basic aspects of astronomy, including cultural and historical considerations. The study of galaxies, stars, as well as our solar system is included. Observational activities may be included as integral parts of the course. Three one-hour lectures per week for the regular semester.

COREQ: MATH 141 OR WAIVER

#3550 Section 01 [units: 3] Gen Ed Math/Natural Sciences (GM) NOTE: This course will be taught online using D2L. An addition fee of $150 will be assessed.

01/19-05/17	*Arranged*	*Arranged*	*WEB BASED*	*Juliana T Constantinescu*

Physics

PHYSCS 130 PHYSICS FOUNDATIONS (GL) ... This course will explore topics in classical physics (motion, heat, sound, electricity, magnetism, and light) and modern physics (atomic structure, quantum mechanics, and relativity) with an emphasis on how the principles explain and predict phenomena we observe every day. Four one-hour lectures and one two-hour laboratory per week.

COREQ: MATH 141 OR CONSENT OF INSTRUCTOR

#3567 Section 01 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*W*	*09:00 AM - 10:50 AM*	*UH0058*	*Ozgur Yavuzcetin*
01/19-05/17	*MTWR*	*08:00 AM - 08:50 AM*	*UH0141*	*Ozgur Yavuzcetin*

#3568 Section 02 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*W*	*11:00 AM - 12:50 PM*	*UH0058*	*Ozgur Yavuzcetin*
01/19-05/17	*MTWR*	*08:00 AM - 08:50 AM*	*UH0141*	*Ozgur Yavuzcetin*

#3569 Section 03 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*W*	*01:00 PM - 02:50 PM*	*UH0058*	*Ozgur Yavuzcetin*
01/19-05/17	*MTWR*	*08:00 AM - 08:50 AM*	*UH0141*	*Ozgur Yavuzcetin*

PHYSCS 140 PRINCIPLES OF PHYSICS I (GL) ... An algebra-based course in classical mechanics at the introductory level. The content covers kinematics, Newton's laws, conservation laws, oscillations and waves, applications to fluids and elasticity, and thermodynamics and kinetic theory. Applications to the life and health sciences are emphasized, and essential MCAT subject matter is included. Basic understanding of trigonometry and the manipulation of vectors is necessary. Students with adequate mathematical preparation may wish to consider taking the PHYSCS 180 series. Four one-hour lectures and one three-hour laboratory per week.

COREQ: MATH 152

#3521 Section 01 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*W*	*08:00 AM - 08:50 AM*	*UH0050*	*Abdelkrim Boukahil*
01/19-05/17	*W*	*09:00 AM - 10:50 AM*	*UH0050*	*Abdelkrim Boukahil*
01/19-05/17	*TR*	*11:00 AM - 12:15 PM*	*UH0141*	*Abdelkrim Boukahil*

#3543 Section 02 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*W*	*12:00 PM - 12:50 PM*	*UH0050*	*Abdelkrim Boukahil*
01/19-05/17	*W*	*01:00 PM - 02:50 PM*	*UH0050*	*Abdelkrim Boukahil*
01/19-05/17	*TR*	*11:00 AM - 12:15 PM*	*UH0141*	*Abdelkrim Boukahil*

PHYSCS 141 PRINCIPLES OF PHYSICS II (GL) ... An algebra-based course in electricity and magnetism, circuits, electromagnetic waves, optics and an introduction to modern physics. Applications to the life and health sciences are emphasized, and essential MCAT subject matter is included. Basic understanding of trigonometry and the manipulation of vectors is necessary. Students with adequate mathematical preparation may wish to consider taking the PHYSCS 180 series. Four One-hour lectures and one three-hour laboratory per week.

PREREQ: PHYSCS 140

#3552 Section 01 [units: 5] Gen Ed Laboratory (GL)

01/19-05/17	*T*	*08:00 AM - 08:50 AM*	*UH0050*	*Jalal M Nawash*
01/19-05/17	*T*	*09:00 AM - 10:50 AM*	*UH0050*	*Jalal M Nawash*
01/19-05/17	*MW*	*11:00 AM - 12:15 PM*	*UH0141*	*Jalal M Nawash*

Start/End Dates	Meeting Days	Meeting Times	Location	Instructor	Course Topic (if applicable)
#3553 Section 02	[units: 5]	Gen Ed Laboratory (GL)			
01/19-05/17	T	11:00 AM - 12:50 PM	UH0050	Jalal M Nawash	
01/19-05/17	T	01:00 PM - 01:50 PM	UH0050	Jalal M Nawash	
01/19-05/17	MW	11:00 AM - 12:15 PM	UH0141	Jalal M Nawash	
#3554 Section 03	[units: 5]	Gen Ed Laboratory (GL)			
01/19-05/17	T	02:00 PM - 02:50 PM	UH0050	Jalal M Nawash	
01/19-05/17	T	03:00 PM - 04:50 PM	UH0050	Jalal M Nawash	
01/19-05/17	MW	11:00 AM - 12:15 PM	UH0141	Jalal M Nawash	

PHYSCS 181 PHYSICS FOR SCIENTISTS AND ENGINEERS II (GL) ... A course in introductory physics including a mathematically rigorous analysis of electricity and magnetism, light and optics, and modern physics using calculus. For majors and minors in physics, engineering, chemistry, and mathematics. Four one-hour lectures and one three-hour lab per week.

PREREQ: PHYSCS 180 OR CONSENT OF INSTRUCTOR; COREQ: MATH 254

#3506 Section 01	[units: 5]	Gen Ed Laboratory (GL)			
01/19-05/17	T	08:00 AM - 10:50 AM	UH0058	Robert Benjamin	
01/19-05/17	MWF	01:00 PM - 01:50 PM	UH0141	Robert Benjamin	
01/19-05/17	F	02:00 PM - 02:50 PM	UH0141	Robert Benjamin	
#3510 Section 02	[units: 5]	Gen Ed Laboratory (GL)			
01/19-05/17	T	02:00 PM - 04:50 PM	UH0058	Robert Benjamin	
01/19-05/17	MWF	01:00 PM - 01:50 PM	UH0141	Robert Benjamin	
01/19-05/17	F	02:00 PM - 02:50 PM	UH0141	Robert Benjamin	

PHYSCS 212 PHYSICS FOR ELEMENTARY TEACHERS (GL) ... This course is a one-semester introduction to physics with curriculum and instruction designed as an activity-based hands-on course for K-8 elementary education students and open to all education majors. The course emphasizes a student-oriented pedagogy in order to develop various physics concepts and the nature of science. Topics covered include motion, forces, energy, light, heat, electricity, and magnetism.

PREREQ: MATH 141 AND RESTRICTED TO STUDENTS WITH BSE PROGRAM

#3564 Section 01	[units: 4]	Gen Ed Laboratory (GL)			
01/19-05/17	MWF	08:00 AM - 09:45 AM	UH0166	Steven C Sahyun	
#3565 Section 02	[units: 4]	Gen Ed Laboratory (GL)			
01/19-05/17	MWF	10:00 AM - 11:45 AM	UH0166	Steven C Sahyun	

PHYSCS 240 PHYSICS OF SOUND AND MUSIC (GM) ... A descriptive course that deals with various properties of sound, the generation of sound by traditional musical instruments and the electronic production and reproduction of sound. The physical process of hearing and the acoustical properties of rooms are also included. Three one-hour lecture periods per week.

COREQ: MATH 140 OR MATH 141

#3546 Section 01	[units: 3]	Gen Ed Math/Natural Sciences (GM)		
01/19-05/17	TR	12:30 PM - 01:45 PM	UH0166	Juliana T Constantinescu

PHYSCS 291 PHYSICS RECITATIONS II ... Topics include partial derivatives, increments, and total derivatives: application to force and potential energy, linear momentum, angular momentum, and the dynamics of systems, integrals in two and three dimensions: application to the dynamics of rigid bodies including rotations and forces in equilibrium. One-hour lecture per week.

PREREQ: PHYSCS 290 OR CONSENT OF INSTRUCTOR

#3525 Section 01	[units: 1]			
01/19-05/17	W	03:00 PM - 03:50 PM	UH0166	Abdelkrim Boukahil
S/NC Grading Basis Only				

PHYSCS 310 MECHANICS - DYNAMICS ... A study of classical mechanics. Topics will include Newtonian mechanics, Lagrangean and Hamiltonian formalisms, symmetry principles, conservation laws, oscillations, central force and two-body problems, collisions and scattering cross-sections, motion in non-inertial reference frames, and rigid body motion. Required of all majors and minors in physics. Three one-hour lectures per week.

PREREQ: PHYSCS 324 WITH A GRADE OF C OR BETTER

#3533 Section 01	[units: 3]			
01/19-05/17	TR	09:30 AM - 10:45 AM	UH0141	Abdelkrim Boukahil

PHYSCS 325 CLASSICAL ELECTROMAGNETISM ... A study of the electrostatic field, electric multipoles, dielectrics, special methods in electrostatics, the magnetic field, magnetic materials, time-varying fields, conservation laws, and electromagnetic waves. Three one-hour lectures per week.

PREREQ: PHYSCS 324

#3534 Section 01	[units: 3]			
01/19-05/17	TR	02:00 PM - 03:15 PM	UH0166	Abdelkrim Boukahil

PHYSCS 330 ANALOG AND DIGITAL ELECTRONICS ... An introductory course in electronics with emphasis on solid state devices, diode and amplifier circuits, waveform generation, operational amplifiers, digital circuitry and microcomputer applications to physical measurement. Three one-hour lectures per week.

PREREQ: PHYSCS 221

#3560 Section 01	[units: 3]			
01/19-05/17	MW	05:00 PM - 06:15 PM	UH0141	Paul M Rybski

PHYSCS 331 ANALOG AND DIGITAL ELECTRONICS LABORATORY ... A laboratory course in electronics with emphasis on solid state devices, diode and amplifier circuits, waveform generation, analog computer circuitry, digital circuitry and microcomputer applications to physical measurement. One two-hour laboratory per week.

COREQ: PHYSCS 330

#3562 Section 01 [units: 1]
01/19-05/17 T 03:30 PM - 06:20 PM UH0053 Paul M Rybski

#3563 Section 02 [units: 1]
01/19-05/17 R 03:30 PM - 06:20 PM UH0053 Paul M Rybski

PHYSCS 344 MODERN PHYSICS ... Topics covered include relativity, elementary quantum physics, atomic and molecular structure, elementary nuclear physics and fundamental particles. Laboratory experiments complement material presented in lectures. Three one-hour lectures and one three-hour laboratory per week.

PREREQ: PHYSCS 181, OR PHYSCS 141 AND MATH 254

#3559 Section 01 [units: 4]
01/19-05/17 M 02:00 PM - 04:50 PM UH0061 Jalal M Nawash
01/19-05/17 MW 09:30 AM - 10:45 AM UH0141 Jalal M Nawash

PHYSCS 493 PHYSICS COOPERATIVE EDUCATION ... The course gives the student an opportunity to intersperse full time study with full time employment. The student will be interviewed by a potential employer identified by the Physics Department. If accepted as an employee, the student may work from one to four terms. A work term is defined as a semester or a summer of employment. No more than two credits may be counted towards the Physics Major. A written report is required.

PREREQ: PHYSCS 181

#4447 Section 01 [units: 1]
01/19-05/17 Arranged Arranged Ozgur Yavuzcetin

#4631 Section 02 [units: 1]
01/19-05/17 Arranged Arranged Robert Benjamin

PHYSCS 498 INDEPENDENT STUDY ... Study of a selected topic or topics under the direction of a faculty member. Repeatable for a maximum of 3 credits in major or minor in physics.

PREREQ: JUNIOR/SENIOR STATUS OR CONSENT OF INSTRUCTOR

#3737 Section 01 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Robert Benjamin

#3738 Section 02 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Abdelkrim Boukahil

#3739 Section 03 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Juliana T Constantinescu

#3740 Section 04 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Jalal M Nawash

#3741 Section 05 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Paul M Rybski

#3742 Section 06 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Steven C Sahyun

#3743 Section 07 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Ozgur Yavuzcetin

PHYSCS 498R INDEPENDENT STUDENT - UNDERGRADUATE RESEARCH ... Study of a selected topic or topics under the direction of a faculty member. Repeatable for a maximum of 3 credits in major or minor in physics.

PREREQ: JUNIOR/SENIOR STATUS OR CONSENT OF INSTRUCTOR

#3744 Section 01 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Robert Benjamin

#3745 Section 02 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Abdelkrim Boukahil

#3746 Section 03 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Juliana T Constantinescu

#3747 Section 04 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Jalal M Nawash

#3748 Section 05 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Paul M Rybski

#3749 Section 06 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Steven C Sahyun

#3750 Section 07 [units: 1-3] Dept. Consent
01/19-05/17 Arranged Arranged Ozgur Yavuzcetin