PHYSICS

Astronomy

ASTRONMY 112 INTRODUCTION TO ASTRONOMY ... 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

#4101 Section 02 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 T 09:30 AM - 11:30 AM UH0050 Juliana T Constantinescu*
- *09/02-12/22 MTWR 03:45 PM - 04:35 PM UH0141 Juliana T Constantinescu*

#4107 Section 03 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 M 12:05 PM - 02:05 PM UH0050 Paul M Rybski*
- *09/02-12/22 MTWR 09:55 AM - 10:45 AM UH0141 Paul M Rybski*

#5891 Section 04 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 T 12:30 PM - 02:30 PM UH0050 Juliana T Constantinescu*
- *09/02-12/22 MTWR 09:55 AM - 10:45 AM UH0141 Paul M Rybski*

ASTRONMY 114 DESCRIPTIVE ASTRONOMY ... 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 and field trips may be included as integral parts of the course. Three one-hour lectures per week.

COREQ: MATH 141 OR WAIVER

#4103 Section 01 [units: 3] Gen Ed Math/Natural Sciences (GM)
- *09/02-12/22 MWF 02:15 PM - 03:05 PM UH0141 Juliana T Constantinescu*

ASTRONMY 498 INDEPENDENT STUDY ... Study of a selected topic or topics under the direction of a faculty member. Repeatable. Department Consent required.

#4109 Section 01 [units: 1-3] Dept. Consent
- *09/02-12/22 Arranged Arranged Robert Benjamin*

#4111 Section 02 [units: 1-3] Dept. Consent
- *09/02-12/22 Arranged Arranged Juliana T Constantinescu*

#4113 Section 03 [units: 1-3] Dept. Consent
- *09/02-12/22 Arranged Arranged Paul M Rybski*

Physics

PHYSCS 120 LIGHT AND COLOR ... An introduction to light science for students in the visual arts and for students with an interest in art. The course includes the properties of light and color, the interaction of light with matter, the formation of visual images, and color vision. Three one-hour lectures and one two-hour laboratory per week.

COREQ: MATH 141 OR 140 OR WAIVER

#5900 Section 01 [units: 4] Gen Ed Laboratory (GL)
- *09/02-12/22 W 02:15 PM - 04:15 PM UH0050 Abdelkrim Boukahil*
- *09/02-12/22 TR 11:00 AM - 12:15 PM UH0141 Abdelkrim Boukahil*

PHYSCS 130 PHYSICS FOUNDATIONS ... 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

#4067 Section 01 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 R 09:30 AM - 11:30 AM UH0058 Juliana T Constantinescu*
- *09/02-12/22 MF 08:50 AM - 09:40 AM UH0141 Robert Benjamin*
- *09/02-12/22 TR 08:25 AM - 09:15 AM UH0141 Robert Benjamin*

#4069 Section 02 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 R 12:30 PM - 02:30 PM UH0058 Juliana T Constantinescu*
- *09/02-12/22 MF 08:50 AM - 09:40 AM UH0141 Robert Benjamin*
- *09/02-12/22 TR 08:25 AM - 09:15 AM UH0141 Robert Benjamin*

PHYSCS 140 PRINCIPLES OF PHYSICS I ... An algebra-based course in classical mechanics at the introductory level. The content covers kinematics, Newton's laws, conservation laws, oscillations and waves, applicatons 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

#4063 Section 01 [units: 5] Gen Ed Laboratory (GL)
- *09/02-12/22 R 02:15 PM - 05:15 PM UH0050 Jalal M Nawash*
- *09/02-12/22 MWF 11:00 AM - 11:50 AM UH0141 Jalal M Nawash*

Start/End Dates	Meeting Days	Meeting Times	Location	Instructor	Course Topic (if applicable)
#4071 Section 02 [units: 5] Gen Ed Laboratory (GL)					
09/02-12/22	R	09:30 AM - 12:30 PM	UH0050	Jalal M Nawash	
09/02-12/22	MWF	11:00 AM - 11:50 AM	UH0141	Jalal M Nawash	

PHYSCS 180 PHYSICS FOR SCIENTISTS AND ENGINEERS I ... A lecture course in introductory physics including a mathematically rigorous analysis of mechanics, vibrations, weave motion, and thermodynamics using calculus. For majors and minors in physics, engineering, chemistry, mathematics. Four one-hour lectures and one three-hour lab per week. High school calculus recommended.

COREQ: MATH 253

#4051 Section 01 [units: 5] Gen Ed Laboratory (GL)					
09/02-12/22	T	09:50 AM - 12:50 PM	UH0058	Robert Benjamin	
09/02-12/22	MTRF	01:10 PM - 02:00 PM	UH0141	Robert Benjamin	
#4055 Section 02 [units: 5] Gen Ed Laboratory (GL)					
09/02-12/22	T	02:15 PM - 05:15 PM	UH0058	Robert Benjamin	
09/02-12/22	MTRF	01:10 PM - 02:00 PM	UH0141	Robert Benjamin	

PHYSCS 190 FRONTIERS OF ENGINEERING AND PHYSICS ... An introduction to career tracks and career opportunities in engineering and physics. This course will feature readings on different career possibilities in engineering and physics and visiting lectures by practicing physicists and engineers. Professional skills, identification of career tracks, and scientific and technical communication will be emphasized. One hour lecture per week.

#4085 Section 01 [units: 1]					
09/02-12/22	F	12:05 PM - 12:55 PM	UH0141	Jalal M Nawash	

PHYSCS 212 PHYSICS FOR ELEMENTARY TEACHERS ... 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

#4091 Section 01 [units: 4] Gen Ed Laboratory (GL)					
09/02-12/22	MW	12:05 PM - 02:25 PM	UH0166	Steven C Sahyun	
#4093 Section 02 [units: 4] Gen Ed Laboratory (GL)					
09/02-12/22	MW	08:25 AM - 10:45 AM	UH0166	Steven C Sahyun	

PHYSCS 221 INTERMEDIATE LABORATORY ... A laboratory course concentrating on techniques of recording, interpretation of, and reporting experimental data. Extensive use will be made of computers in data processing. Topics covered include data acquisition and the recording of data, error analysis, numerical analysis, graphing techniques, computational tools and report writing. Two two-hour laboratories per week.

PREREQ: PHYSCS 181, OR PHYSCS 141 AND MATH 254

#4087 Section 01 [units: 2]					
09/02-12/22	TR	11:45 AM - 01:45 PM	UH0061	Paul M Rybski	

PHYSCS 305 MECHANICS - STATICS ... A study of forces on rigid bodies in equilibrium. Topics include force systems, equilibrium, distributed forces, structures, friction, internal forces, centroids and moments of inertia. This course also introduces notations and operations associated with tensor calculus.

PREREQ: PHYSCS 181 OR PHYSCS 141 AND MATH 254

#4061 Section 01 [units: 3]					
09/02-12/22	MWF	02:15 PM - 03:05 PM	UH0140	Jalal M Nawash	

PHYSCS 324 METHODS OF THEORETICAL PHYSICS ... Topics covered include methods of theoretical physics, vector analysis, differential equations of mathematical physics, analytic fuctions and integration in the complex plane, Laplace transforms, Fourier series, Fourier transforms, and their applications in physics. Three one hour lectures per week.

PREREQ: PHYSCS 181, OR PHYSCS 141 AND MATH 254

#4059 Section 01 [units: 3]					
09/02-12/22	TR	02:15 PM - 03:30 PM	UH0141	Abdelkrim Boukahil	

PHYSCS 489 PHYSICS SENIOR SEMINAR ... The course will train students in making scientific presentations, summarize the concepts and methods taught in the physics major curriculum, and prepare them for the Physics Major Field Test as the final exam in the course. Students will become familiar with physics literature and learn to write abstracts and project proposals. The will demonstrate proper methods of verbal and visual presentation by delivering a graded series of talks, concluding with a satisfactory colloquium on a physics topic. Two one-hour sessions a week.

PREREQ: SENIOR LEVEL PHYSICS MAJOR☐☐

#4089 Section 01 [units: 2]					
09/02-12/22	MW	12:05 PM - 12:55 PM	UH0141	Juliana T Constantinescu	

PHYSCS 494 PHYSICS SEMINAR ... Variable topics. Group activity. An advanced course of study in a defined subject matter area emphasizing a small group in intense study with a faculty member. Repeatable.

PREREQ: SENIOR STATUS☐

#5102 Section 01 [units: 1]					Instructor Consent
09/02-12/22	W	01:10 PM - 02:00 PM	UH0141	Abdelkrim Boukahil	

PHYSCS 496 SPECIAL STUDIES ... Variable topics. Group activity. Not offered regularly in the curriculum but offered on topics selected on the basis of timeliness, need, and interest, and generally in the format of regularly scheduled Catalog offerings. Repeatable for a maximum of 3 credits in major or minor in physics.

PREREQ: MAJOR OR MINOR IN PHYSICS, JUNIOR OR SENIOR STANDING AND CONSENT OF INSTRUCTOR

#5101 Section 01 [units: 3]					
09/02-12/22	TR	09:30 AM - 10:45 AM	UH0238	Abdelkrim Boukahil	VIBRATIONS AND WAVES

Class# Section (Units) General Education Designation (if any) | Consent

Start/End Dates | *Meeting Days* | *Meeting Times* | *Location* | *Instructor* | *Course Topic (if applicable)*

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

#5865 Section 01 [units: 1-3] Dept. Consent
09/02-12/22 Arranged Arranged Robert Benjamin

#4075 Section 02 [units: 1-3] Dept. Consent
09/02-12/22 Arranged Arranged Abdelkrim Boukahil

#4077 Section 03 [units: 1-3] Dept. Consent
09/02-12/22 Arranged Arranged Juliana T Constantinescu

#4079 Section 04 [units: 1-3] Dept. Consent
09/02-12/22 Arranged Arranged Paul M Rybski

#4081 Section 05 [units: 1-3] Dept. Consent
09/02-12/22 Arranged Arranged Steven C Sahyun