DEPARTMENT OF PHYSICS AND ASTRONOMY

Physics Major, BS – Academic Concentration, Astronomy Concentration, and General Concentration, revise concentration prerequisites heading:

Physics Major – Prerequisites (30-37 hours)
Formerly: Physics Major – Prerequisites (23-25 hours)

Physics Major, BS – Academic Concentration, Astronomy Concentration, and General Concentration, Prerequisites, under first heading, Complete, add courses to list:

MATH 241 – Calculus III
MATH 251 – Matrix Algebra I

Physics Major, BS – Academic Concentration, Astronomy Concentration, and General Concentration, Physics Major – Requirements revise heading:

Physics Major – Requirements (29 hours)
Formerly: Physics Major – Requirements (33 hours)

In same section, delete course in list:
MATH 241 – Calculus III

Revise course description and add prerequisite:

PHYS 231 – Fundamentals of Physics: Electricity and Magnetism
3 Credit Hours
For engineers and majors in mathematics and the physical sciences. Electric and magnetic phenomena including DC and AC circuits and electromagnetic waves. Contact Hour Distribution: 2 hours lecture and 3 hours lab/recitation. (RE) Prerequisite(s): 135 or 137 or Engineering Fundamentals 151 and 152. (RE) Corequisite(s): Mathematics 142.

Formerly:
PHYS 231 – Fundamentals of Physics: Electricity and magnetism
3 Credit Hours
For engineers and majors in mathematics and the physical sciences. Required of all engineering students. Contact Hour Distribution: 2 hours lecture and 3 hours lab/rerecitation. (RE) Corequisite(s): Mathematics 142.
PHYS 232 – Fundamentals of Physics: Wave Motion, Optics, and Modern Physics
4 Credit Hours
For engineers and majors in mathematics and the physical sciences. Mechanical waves, including sound, and electromagnetic waves, geometric and physical optics, elements of special relativity, and introductory quantum physics.

Formerly:
PHYS 232 – Fundamentals of Physics: Wave Motion, Optics, and Modern Physics
4 Credit Hours
Continuation of 231. Required of all engineering students.

Revise prerequisites:

PHYS 311 – Mechanics
3 Credit Hours
Kinematics and dynamics of single particles, systems of particles, and rigid bodies. Oscillations, Central forces. Gravitation. Includes computational methods. Required of all physics majors.
(RE) Prerequisite(s): 136 or 138 or 232 and Computer Science 102 and Mathematics 251.
(RE) Corequisite(s): Mathematics 231.

Formerly:
PHYS 311 – Mechanics
3 Credit Hours
(RE) Prerequisite(s): 136 or 138 or 231; Computer Science 102.
(RE) Corequisite(s): Mathematics 231.

Revise Prerequisites:
PHYS 321 – Thermal Physics
3 Credit Hours
(RE) Prerequisite(s): 136 or 138 or 232.

Formerly:
PHYS 321 – Thermal Physics
3 Credit Hours
(RE) Prerequisite(s): 136 or 138 or 231 or 311.

Revise Prerequisites and Recommended Background:

PHYS 411 – Introduction to Quantum Mechanics
3 Credit Hours
Required course for all physics majors.
(RE) Prerequisite(s): 250 and Mathematics 241 and Mathematics 251.

Formerly:
PHYS 411 – Introduction to Quantum Mechanics
3 Credit Hours
Required course for all physics majors.
(RE) Prerequisite(s): 250.
Recommended Background: A course (200-level or higher) in advanced calculus.

Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements,
Term 2 courses:
Delete Elective

Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements,
Term 3 milestones, revise to:
MATH 141*, PHYS 135* or PHYS 137* or PHYS 231*
Formerly: MATH 141*, PHYS 135*

Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements,
Term 4 courses:
Delete MATH 241
Add MATH 251

Term 4 milestones revise to:
ENGL 102*, MATH 142*, PHYS 136* or PHYS 138* or PHYS 232*, COSC 102
Formerly: ENGL 102*, MATH 142*, PHYS 136*, COSC 102*
Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements, Term 5 courses:
Delete Elective
Add MATH 241

Term 5 milestones revise to:
MATH 231 or MATH 251, PHYS 250
Formerly: MATH 231 or MATH 241, PHYS 250

Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements, Term 6 milestones, revise to:
Completion of at least 9 upper-division (300-400 level) hours, MATH 231, MATH 241
Formerly: Completion of at least 9 upper-division (300-400 level) hours, MATH 231, MATH 241 or MATH 251

Physics and Astronomy, Physics Major, BS – Academic Concentration, uTrack Requirements, Term 8, New courses, add note:
*Note: single elective, 3 hours

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 3, revise milestones:
MATH 141*, PHYS 135* or PHYS 137* or PHYS 231*
Formerly:
MATH 141*, PHYS 135*

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 4, Courses:
Delete MATH 241
Add MATH 251

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 4, milestones, revise to:
COSC 102
ENGL 102*
MATH 142*
PHYS 136* or PHYS 138* or PHYS 232*

Formerly:
COSC 102
ENGL 102*
MATH 142*
PHYS 136*
Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 5, add to course list:
MATH 241

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 5, revise milestones to:
MATH 231 or MATH 251
PHYS 250
Formerly:
MATH 231 or MAH 241
PHYS 250

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 6, courses:
Delete: Elective
Add: Global Challenges

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 6, Milestones, revise to:
Completion of at least 9 upper-division (300-400 level) hours
MATH 231
MATH 241 or MATH 251
Formerly:
Completion of at least 9 upper-division (300-400 level) hours
MATH 231
MATH 241

Physics and Astronomy, Physics Major, BS – Astronomy Concentration, uTrack Requirements, Term 8, course list, delete:
Communicating Orally Elective*
Global Challenges

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, Term 2, course list, delete Elective

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, Term 3, course list:
Delete: PHYS 311
Add: Communicating through Writing Elective*

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, Term 3, Milestones, revise to:
MATH 141*
PHYS 135* or PHYS 137* or PHYS 231: 
Formerly: MATH 141*, PHYS 135*

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, 
Term 4 courses: 
Delete: MATH 241 
Add: MATH 251 

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, 
Term 4 Milestone Notes, revise to: 

ENGL 102* 
MATH 142* 
PHYS 136* or PHYS 138* or PHYS 232* 
COSC 102* 

Formerly: 
ENGL 102* 
MATH 142* 
PHYS 136* 
COSC 102* 

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, 
Term 5 courses: 
Delete: Physics (major) 
Communicating through Writing Elective* 
Add: MATH 241 
PHYS 311 

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, 
Term 5, Milestones revise to: 
MATH 231 or MATH 251 
PHYS 250 

Formerly: 
MATH 2231 or MATH 241 
PHYS 250 

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements, 
Term 6 courses revise to: 
Arts & Humanities (List A)*
Physics (major)
Social Sciences*
²Connections (2 courses)

Formerly:
Arts & Humanities (List A)*
Physics (major)
Social Sciences*
²Connections

Physics and Astronomy, Physics Major, BS – General Concentration, uTrack Requirements,
Term 6 milestones revise to:
Completion of at least 9 upper-division (300-400 level) hours
MATH 231
MATH 241 or MATH 251

Formerly:
Completion of at least 9 upper-division (300-400 level) hours
MATH 131
MATH 241