PHSX - PHYSICS

PHSX 103 Our Physical World. 3 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): M 095.
Corequisite(s): PHSX 104.
Concentrates on fundamental ideas of physics: energy, forces, and conservation laws. Helps students understand basic principles which underlie and explain all diverse phenomena and structures of the physical world. Emphasizes conceptual rather than mathematical treatment; however, basic algebra skills are required.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 104 Our Physical World Lab. 1 Credit
Term Typically Offered: Fall, Summer
Corequisite(s): PHSX 103.
Examines and analyzes the immediate physical environment in terms of fundamental principles through data collection, analysis and the formation of scientifically valid conclusions. Develops an appreciation for the simplicity of basic physical laws and the broad range of phenomena that can be explained by them.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 205 College Physics I. 3 Credits
Term Typically Offered: Fall
Prerequisite(s): M 122.
Corequisite(s): PHSX 206.
Presents an algebra-based treatment of introductory physics covering vector analysis, Newton's Laws of Motion, conservation laws, bulk properties of matter, fluid mechanics and wave motion. This is the first semester of a two semester sequence. Students may receive credit for only one introductory sequence: PHSX 205-206 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 206 College Physics I Lab. 1 Credit
Term Typically Offered: Fall
Prerequisite(s): M 151.
Corequisite(s): PHSX 205.
Laboratory to complement the lecture in PHSX 205.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 207 College Physics II. 3 Credits
Term Typically Offered: Spring
Prerequisite(s): PHSX 205 and PHSX 206.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-206 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 208 College Physics II Lab. 1 Credit
Term Typically Offered: Spring
Prerequisite(s): PHSX 205 and PHSX 206.
Complements the lecture in PHSX 207 with emphasis on electricity, magnetism, and thermodynamics.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 220 Physics I. 3 Credits
Term Typically Offered: Fall
Prerequisite(s): M 171 or concurrent enrollment in M 171.
Corequisite(s): PHSX 221.
Presents calculus-based treatment of introductory physics covering vector analysis, Newton's Laws of Motion, conservation laws, bulk properties of matter, fluid dynamics, and wave motion. This is the first semester of a two-semester sequence. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 221 Physics I Lab. 1 Credit
Term Typically Offered: Fall
Corequisite(s): PHSX 220.
Laboratory to complement the lecture in PHSX 220.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 232 Physics II & Thermo. 3 Credits
Term Typically Offered: Spring
Prerequisite(s): M 171, PHSX 220, PHSX 221.
Corequisite(s): PHSX 233.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 233 Physics II & Thermo Lab. 1 Credit
Term Typically Offered: Spring
Corequisite(s): PHSX 232.
Laboratory to complement the lecture in PHSX 232.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 294 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): M 151, PHSX 220, PHSX 221.
Corequisite(s): PHSX 221.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 343 Modern Physics. 3 Credits
Term Typically Offered: Fall (even years)
Prerequisite(s): PHSX 232.
Presents the fundamentals of relativity and quantum mechanics with an emphasis on developing the mathematical tools necessary for coordinate transformations, 2nd order partial differential equations, matrices, eigenvalues and eigenvectors.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 344 Modern Physics Lab. 1 Credit
Term Typically Offered: Fall (even years)
Prerequisite(s): PHSX 232.
Corequisite(s): PHSX 343.
Presents laboratory exercises to complement the lecture in PHSX 343.
Lab Hours 1
Department: Sciences - Biology & Phys Sci

PHSX 391 Special Topics. 3 Credits
Prerequisite(s): PHSX 343.
Designed to serve the needs of students who are interested in continued study in physics beyond the introductory level. The course will be devoted to an in-depth study of one of the following topics: electricity and magnetism, classical mechanics, or quantum mechanics.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 394 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 395 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 396 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 397 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 398 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci

PHSX 399 Seminar/Workshop. 1-4 Credits
Term Typically Offered: Fall, Spring, Summer
Prerequisite(s): PHSX 343.
Presents a continuation of the calculus-based treatment of physics with a discussion of thermodynamics, electricity and magnetism, electric circuits, and the behavior and properties of light. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.
Lecture Hours 3
Department: Sciences - Biology & Phys Sci
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>PHSX 490</td>
<td>UG Research</td>
<td>1-6</td>
<td>Junior standing or consent of instructor.</td>
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<td>Provides students the opportunity to conduct a research project under the supervision of a faculty member, including library and experimental research as appropriate, analysis of the results, and the submission of a formal research report upon completion of the project.</td>
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<td>PHSX 491</td>
<td>Special Topics</td>
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<td>PHSX 391 in the area to be continued. The follow-up for electricity and magnetism will be electromagnetic wave theory; for classical mechanics will be fluid dynamics; for quantum mechanics will be further analysis of more complicated atomic systems and a study of Dirac's matrix representation of the Schrodinger equation.</td>
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<td>PHSX 492</td>
<td>Independent Study</td>
<td>1-4</td>
<td>consent of instructor and department chairperson.</td>
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<td>Designed to provide the student with the opportunity to study any special aspect of physics which is not offered directly as a course.</td>
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<td>PHSX 494</td>
<td>Seminar/Workshop</td>
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<td>PHSX 498</td>
<td>Internship/Cooperative Educ.</td>
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