OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor.

FACULTY/DEPARTMENT: Faculty of Science, Health and Human Services

PHYSICS 100 FORMER COURSE NUMBER 4 UCFV CREDITS

COURSE NAME/NUMBER Introdctory Physics I

COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:
This course is designed for students who have not taken physics before, and either need grade 11 physics equivalency for entry to a technical program, or are interested in continuing on in science. It should also satisfy the Laboratory Science requirements of Arts students. The course material overlaps Phys 11 and Phys 083, and includes such topics as: kinematics, energy, wave motion, and geometric optics. Some discussion of relativity and nuclear energy is also included. This course is designed as an entry level course for students strong in mathematics who have no physics background.

PREREQUISITES: Any BC Math 12 or Math 094

COREQUISITES: Math 095 is suggested

SYNONYMOUS COURSE(S)

(a) Replaces: n/a

(b) Cannot take: Phys 083 for further credit.

SERVICE COURSE TO:

TOTAL HOURS PER TERM: 90 TRAINING DAY-BASED INSTRUCTION

STRUCTURE OF HOURS:
Lectures: 60 Hrs
Seminar: Hrs
Laboratory: 30 Hrs
Field Experience: Hrs
Student Directed Learning: Hrs
Other (Specify): Hrs

MAXIMUM ENROLLMENT: 36

EXPECTED FREQUENCY OF COURSE OFFERINGS:
two sections per year

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)
Yes ☐ No ☐

WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)
Yes ☐ No ☐

TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:

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WILL TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:

AUTHORIZATION SIGNATURES:
Course Designer(s): Tim Cooper / Norm Taylor/Carmen Herman

Chairperson: Gillian Mimmack (Curriculum Committee)

Department Head: Norm Taylor
Dean: Jackie Snodgrass

PAC Approval in Principle Date: PAC Final Approval Date: December 14, 2005
LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:
1. This course is designed for those students who have been unable to take physics previously, but wish to continue studies that require Phys 11 or its equivalent.
2. Successful completion of this course will also give students access to our Physics 101 and Physics 111 courses.
3. Upon completion of this course students will be able to solve various problems in each of the topic areas listed in the Calendar Description section.
4. This course should also count for science credit towards a non-science degree, both here and at other institutions.

METHODS:
Lecture, demonstration, small group practice, discussion, laboratory.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):
Credit can be awarded for this course through PLAR (Please check:) ☑ Yes ☐ No

METHODS OF OBTAINING PLAR:
Departmental Review and/or Course Challenge

TEXTBOOKS, REFERENCES, MATERIALS:
[Textbook selection varies by instructor. An example of texts for this course might be:]

SUPPLIES / MATERIALS:
Fully-equipped physics lab

STUDENT EVALUATION:
[An example of student evaluation for this course might be:] Final weighting to be determined by instructor.

<table>
<thead>
<tr>
<th>Component</th>
<th>Weightage</th>
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</thead>
<tbody>
<tr>
<td>Final exam</td>
<td>40%</td>
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<tr>
<td>Midterm</td>
<td>25%</td>
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<tr>
<td>Labs</td>
<td>20%</td>
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<tr>
<td>Homework</td>
<td>15%</td>
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COURSE CONTENT:
[Course content varies by instructor. An example of course content might be:] Week 1 Introduction, Kinematics in one dimension
Week 2 Kinematics in one dimension
Week 3 Kinematics in one and two dimensions, Projectiles
Week 4 Forces in one dimension (gravity, friction, springs)
Week 5 Newton’s Laws
Week 6 Work, Energy, Power, Efficiency
Week 7 Momentum, Impulse
Week 8 Midterm
Week 9 Waves (qualitative, quantitative)
Week 10 Reflection, Interference, Diffraction, Refraction
Week 11  Geometric Options: Mirrors
Week 12  Geometric Optics: Lenses
Week 13  Modern Physics (relativity and nuclear energy)
Week 14  Review/Catch-up

LABORATORY EXPERIMENTS:

Lab 1  Introduction, Measurement and Graphing Exercises, Error Analysis and Math Review (2 weeks)
Lab 2  Uniformly Accelerated Motion
Lab 3  Forces: Friction
Lab 4  Forces: Springs
Lab 5  Newton's 2nd Law of Motion
Lab 6  Conservation of Momentum
Lab 7  Conservation of Energy
Lab 8  Mirrors and Images
Lab 9  Refraction