



One College Drive, Blythe CA 92225
(760) 921-5500

Course Control Number: CCC000606348		
Course Outline Approval Dates		
Modality	Curriculum Committee	Board of Trustees
Face-to-face	5/23/19	6/11/19
Correspondence Ed.	5/23/19	6/11/19
Distance Ed.	5/23/19	6/11/19

COURSE OUTLINE OF RECORD

Course Information

Course Initiator: Nidhi R. Patel, PhD			
CB01 - Subject and Course #: PHY 100			
CB02 - Course Title: Physics Concepts			
New Course: <input checked="" type="checkbox"/>		Non-Substantial: <input type="checkbox"/>	
		Substantial: <input type="checkbox"/>	
Articulation Request: <input checked="" type="checkbox"/> UC		<input checked="" type="checkbox"/> CSU	
		<input checked="" type="checkbox"/> CSU-GE	
		<input checked="" type="checkbox"/> IGETC	
Lecture Hours: 54		Laboratory Hours:	
		Clinical/Field Hours:	
CB06/CB07: Course Units: 3.0			
Prerequisites:			
Co-requisites:			
Advisories: Completion of MAT 095 or above. In addition, completion of ENG 099 Basic Composition or placement in ENG 100 or ENG 101 based on AB 705 mandates.			
CB03 - TOP Code:		1902.00 - Physics, General	
CB04 - Credit Status:		D - Credit - Degree Applicable	
CB05 - Transfer Status:		B - Transferable to CSU only	
CB08 - Basic Skills Status:		N - Course is not a basic skills course	
CB09 - SAM Priority Code:		E - Non-Occupational	
CB10 - Cooperative Work:		N - Is not part of Cooperative Work Experience Education Program	
CB11 - Course Classification:		Y - Credit Course	
CB13 - Approved Special:		N - Course is not a special class	
CB21 - Prior Transfer Level:		Y - Not Applicable	
CB22 - Noncredit Category:		Y - Credit Course	
CB23 - Funding Agency:		Y - Not Applicable	
CB24- Program Status:		1 - Program Applicable	
Transfer Request:		A= UC and CSU	

Please select the appropriate box(s) of the modalities in which this course will be offered, and fill out the appropriate sections for that mode.

- Face-to-Face – Section B
- Correspondence Education – Section C
- Distance Education – Section D

JUSTIFICATION OF NEED:

PHY 100 doesn't meet the general education transfer requirements until it goes through the articulation process.

CATALOG DESCRIPTION:

PHY 100 is an algebra-based physics course. It is intended for students who want to explore the fundamental concepts of physics as applied to everyday phenomena from a limited mathematical perspective emphasizing verbal logic, critical analysis, rational thought, and problem solving skills. Topics include mechanics, thermodynamics, electricity and magnetism, wave phenomena, and modern physics.

COURSE OBJECTIVES:

The purpose of this course is to:

1. Acquaint students with the fundamental physical quantities.
2. Explain Newton's three laws of motion.
3. Prepare students for the use of energy conservation laws.
4. Explain the physics of matter.
5. Improve students' understanding of temperature and heat.
6. Acquaint students with the production, propagation, and perception of sound.
7. Explain the concepts of electricity, such as power and energy in electric currents or superconductivity.
8. Improve students' understanding of electromagnetism and EM waves.
9. Acquaint students with the practices in optics, including light waves, lenses, and the human eye.
10. Explain atomic physics, such as the Quantum Hypothesis, the Atomic Spectra, and lasers.
11. Improve students' understanding of nuclear physics, including radioactivity, nuclear reactions, and the difference between fission and fusion.
12. Understand special and general relativity, particles physics, and cosmology.

STUDENT LEARNING OUTCOMES:

Upon successful completion of the course, the student will be able to:

1. Solve motion of objects using the conservation laws.
2. Calculate energy efficiency of a heat engine.
3. Give an example of a device that uses electromagnetic induction.
4. Calculate the binding energy of a nucleus.

A. COURSE OUTLINE AND SCOPE

1. Outline of topics or content:

1. The study of motion.
2. Newton's laws.
3. Energy and conservation laws.
4. Physics of matter.
5. Temperature and heat.
6. Waves and sound.
7. Electricity.
8. Electromagnetism and EM waves.
9. Optics.
10. Atomic physics.
11. Nuclear physics.
12. Relativity, particle physics, and cosmology.

2. If a course contains laboratory or clinical/field hours, list examples of activities or topics:

3. Examples of reading assignments:

Examples of reading assignments may include, but are not limited to: reading the textbook, homework, quizzes, and exams.

4. Examples of writing assignments:

Examples of writing assignments may include, but are not limited to: solving problems assigned in homework, quizzes, and exams.

5. Appropriate assignments to be completed outside of class:

Appropriate assignments to be completed outside of class may include, but are not limited to: homework and take-home quizzes.

6. Appropriate assignments that demonstrate critical thinking:

Appropriate assignments that demonstrate critical thinking may include, but are not limited to: solving problems.

7. Other assignments (if applicable):

As assigned by the instructor.

Check if Section B is not applicable

B. FACE-TO-FACE COURSE SECTIONS:

Face-to-face education

Is a mode of delivery in which instruction is delivered in a traditional classroom setting, with instructor and students located simultaneously in the same classroom facility.

1. Describe the methods of instruction:

Instructional techniques that will be implemented, include, but not limited to the following: lectures, classroom discussions, computer-aided exercises, supplemental audio and video for demanding topics, and collaborative group exercises.

2. Describe the methods of evaluating of student performance.

Methods of evaluation of student performance may include, but are not limited to: homework assignments, quizzes, exams, and

projects as directed by the instructor.

3. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

4. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

NOTE: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

Check if Section C is not applicable

C. CORRESPONDENCE EDUCATION COURSE SECTIONS (Correspondence, hybrid correspondence)

Correspondence education

is a mode of delivery in which instructional materials are delivered by mail, courier or electronic transmission to students who are separated from the instructor by distance. Contact between instructor and students is asynchronous.

Hybrid correspondence education

is the combination of correspondence and face-to-face interaction between instructor and student.

1. Describe the methods of instruction.

Methods of instruction for this course will include, but are not limited to: instructional materials delivered by mail and/or by the Bridge platform and/or additional online services offered by the publishers, video presentations, phone calls, email correspondence, private consultation, voice-mail, textbook reading assignments, instruction by computer-aided projects, practice worksheets, and supplemental study guides.

2. Describe the methods of evaluating student performance.

Methods of evaluation of student performance may include, but are not limited to: homework assignments, quizzes, exams, and projects as directed by the instructor.

3. Describe how regular, effective contact between the instructor and a student is maintained.

Regular, effective contact includes, but is not limited to, exams; quizzes; essays; research papers; graded homework assignments; syllabus receipt; office hours; instant messaging; and synchronous online discussions, e-mails, letters, notes, phone calls, or postings on the Bridge between instructor and student.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

Consistent with policy elements listed in the ACCJC’s “Policy on Distance Education and on Correspondence Education,” the College verifies the identity of a student who participates in class or coursework by using, at the College’s discretion, such methods as a secure log-in and password, proctored examinations, or other technologies or practices that are developed and effective in verifying each student’s identification.

5. Describe procedures that evaluate the readiness of a student to succeed in a correspondence or hybrid correspondence course section.

The procedure might consist of a short assessment questionnaire prepared by the instructor and self-administered by the student. The questionnaire would evaluate areas such as working independently, adhering to timelines, and familiarity with working online and with computer technology. The student would use the resulting score to evaluate his or her readiness to take the course in a correspondence or hybrid correspondence instructional mode.

6. Describe how the confidentiality of the student’s work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students’ grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

The students may be required to use a computer in this course. It is preferable that the student uses his/her own computer equipped compatible web browser. If the student does not have a personal computer, he/she can use the computers available at the Palo Verde College campus. The students may be required to purchase the digital textbook license instead of the print version of the textbook so that other services provided by the publisher may be utilized to enhance the learning experience.

Note: Students will be encouraged by instructors of this course to direct themselves to the College’s Disabled Students’ Programs and Services (DSP&S) department if they believe they have a learning disability.

Check if Section D is not applicable

D. DISTANCE EDUCATION COURSE SECTIONS (online, ITV, hybrid)

Online education

is a mode of delivery in which all instruction occurs online via the Internet. Student and instructor access to email and the Internet is required. Students are required to complete class work using email, chat rooms, discussion boards and other instructional online venues.

Interactive television (ITV)

is a mode of synchronous delivery in which instruction occurs via interactive television (closed circuit).

Hybrid instruction

is a combination of face-to-face instruction and online instruction.

1. Describe the methods of instruction.

The methods of instruction may include but are not limited to: instructional materials delivered by the Bridge platform and/or additional online services offered by the publishers, email correspondence, supplemental worksheets, voicemail, and video presentations.

2. Describe the methods of evaluating of student performance.

Methods of evaluation of student performance may include, but are not limited to: homework assignments, quizzes, exams, and projects as directed by the instructor.

3. Describe how regular, effective contact between the instructor and a student is maintained.

Regular, effective contact includes, but is not limited to, exams; quizzes; essays; research papers; graded homework assignments; syllabus receipt; office hours; instant messaging; and synchronous online discussions, e-mails, letters, notes, phone calls, or postings on the Bridge between instructor and student.

4. Describe procedures that help verify the individual submitting class work is the same individual enrolled in the course section.

Consistent with policy elements listed in the ACCJC's "Policy on Distance Education and on Correspondence Education," the College verifies the identity of a student who participates in class or coursework by using, at the College's discretion, such methods as a secure log-in and password, proctored examinations, or other technologies or practices that are developed and effective in verifying each student's identification.

5. Describe procedures that evaluate the readiness of a student to succeed in an online, ITV or hybrid course section.

The procedure might consist of a short assessment questionnaire prepared by the instructor and self-administered by the student. The questionnaire would evaluate areas such as working independently, adhering to timelines, and familiarity with working online and with computer technology. The student would use the resulting score to evaluate his or her readiness to take the course in a correspondence or hybrid correspondence instructional mode.

6. Describe how the confidentiality of the student's work and grades will be maintained.

Instructors shall make reasonable efforts to protect the confidentiality of students' grades and graded work consistent with practices described in the Family Education Rights and Privacy Act (FERPA).

7. If the course has a lab component, describe how lab work is to be conducted and how student work is to be evaluated.

8. If the course requires specialized equipment, including computer and computer software or other equipment, identify the equipment, and describe how it is to be accessed by students.

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College campus. The students may be required to purchase the digital textbook license instead of the print version of the textbook so that other services provided by the publisher may be utilized to enhance the learning experience.

Note: Students will be encouraged by instructors of this course to direct themselves to the College's Disabled Students' Programs and Services (DSP&S) department if they believe they have a learning disability.

**E. REPRESENTATIVE TEXTBOOKS AND OTHER READING AND STUDY MATERIALS:
List author, title, and current publication date of all representative materials.**

Ostdiek and Bord, Inquiry into Physics, 8th Edition, Cengage Learning, 2018 (or most recent edition)

SIGNATURES

COURSE INITIATOR: _____

DATE: _____

DIVISION CHAIR: _____

DATE: _____

LIBRARY: _____

DATE: _____

CHAIR OF CURRICULUM COMMITTEE: _____

DATE: _____

SUPERINTENDENT/PRESIDENT: _____

DATE: _____