

## JCC OFFICIAL COURSE OUTLINE

### Course number, title and credits; total time allocation

Course Letter/Number	PHY 131	Credits	4	Title	Conceptual Physics		
Lecture/Discussion	45	hrs/semester	Lab	30	hrs/semester	Clinical	hrs/semester

### Catalog Description and Pre- and Co-requisites (Same as taxonomy and catalog)

CATALOG DESCRIPTION: Become familiar with basic concepts used in physics to describe and explain various physical phenomena. The course covers the following topics: kinematics (the description of motion); mechanics (the study of force, momentum, and energy); the behavior of solids, liquids and gases; temperature and heat; waves and sound; electricity and magnetism; and optics. The course is designed to familiarize the student with the basics of physics using a minimum of mathematics. Course includes a laboratory component.

PRE-REQUISITES: ENG 085/MAT 098

### Knowledge, Skills and Abilities Students Acquire from this Course (Educational Objectives)

Familiarity with basic concepts in physics.

Familiarity with basic scientific reasoning.

Ability to apply these concepts and scientific reasoning to various types of situations.

Ability to perform low-level algebraic computation.

Ability to take and analyze data in a laboratory setting.

### Associate Degree Outcomes Addressed in this Course (These must appear in course syllabus.)

ADO 4 (Scientific Reasoning), ADO 7 (Critical Thinking). As this is an introductory course, each of these is dealt with at the "developing" level.

### Units/topics of Instruction

As listed in catalog description above, and (in more detail) in the syllabus for the course.

### Instructional Techniques and Procedures

Discussion; group work in class involving problem solving; group work in laboratory component involving gathering and analyzing data.

### Instructional Use of Computer or Other Technology

Computers used in data acquisition and processing in the laboratory component of the course.

### Instructional Materials and Costs to Students

Students require a textbook. As of 11/15/11, cost of textbook at the JCC bookstore is \$179 new, and \$134 used. The book is available more cheaply on the internet. Also, there is a course fee that is currently set at \$47.

### Skills and abilities students should bring to the course

Able to read	<input type="checkbox"/> a limited amount of material	Able to compute	<input type="checkbox"/> basic, pre-algebraic problems
	<input checked="" type="checkbox"/> an average amount of material		<input checked="" type="checkbox"/> simple algebraic problems
	<input type="checkbox"/> an above average amount of material		<input type="checkbox"/> higher order mathematical problems
Able to read	<input type="checkbox"/> relatively easy material	Able to write	<input checked="" type="checkbox"/> short compositions
	<input checked="" type="checkbox"/> moderately difficult material		<input type="checkbox"/> medium length compositions
	<input type="checkbox"/> technical or sophisticated material		<input type="checkbox"/> lengthy compositions
Able to use technology	<input type="checkbox"/> keyboard skills/familiar with computer	Other necessary abilities	<input type="checkbox"/>
	<input checked="" type="checkbox"/> computer application		<input type="checkbox"/>
	<input type="checkbox"/> web navigation		<input type="checkbox"/>

### The course is usually scheduled

Day: ☒ Fall ☒ Winter ☒ Spring

Evening: ☐ Fall ☐ Winter ☐ Spring

Prepared by \_\_\_\_\_

Date \_\_\_\_\_

Approved by Dept. \_\_\_\_\_

Date \_\_\_\_\_

Approved by Dean \_\_\_\_\_

Date \_\_\_\_\_

Approved by Curr. Comm. \_\_\_\_\_

Date \_\_\_\_\_

(Last names, please)

Form Revised 12/4/00