Curriculum Committee

New Course Proposal

FLORIDA SOUTHWESTERN STATE COLLEGE

School or Division	School of Pure and Applied Sciences
Program or Certificate	Science Gen Ed - Other
Proposed by (faculty only)	Marius Coman
Presenter (faculty only)	Marius COman
Note that the presenter (faculty) listed above must be present at the Curriculum Committee meeting or the proposal will be returned to the School or Division and must be submitted for a later date.	
Submission date	10/23/2017
Course prefix, number, and title	PHY1007C

Section I, New Course Information (must complete all items)

List course prerequisite(s) and minimum grade(s) (must include minimum grade if higher than a "D").	(SB 1720 Testing Exemption or successful completion of all Developmental courses); and MAT 1033 or higher with a minimum grade of "C
Provide justification for the proposed prerequisite(s).	Students need basic algebra skills to be successful in this physics class
Will students be taking any of the prerequisites listed for this course in different parts of the same term (ex. Term A and Term B)?	No
List course co-requisites.	None
Provide justification for the proposed co-requisite(s).	
Is any co-requisite for this course listed as a co-requisite on its paired course? (Ex. CHM 2032 is a co-requisite for CHM 2032L, and CHM 2032L is a co-requisite for CHM 2032)	No
Course credits or clock hours	3 credit, 4 contact – 2 lecture and 2 lab
Contact hours (faculty load)	4 load hous
Select grade mode	Standard Grading (A, B, C, D, F)
Credit type	College Credit
Course description (provide below)	

This is a one-semester course for students in the health sciences who need a background in physics which is broad in scope and stresses applications in the health field. The course enhances student learning of physical concepts through hands on activities and experiments. (2 lec hours, 2 lab hours)

General topic outline (type in outline below)

- Physical Quantities, methods of measurement, units;
    - Lab: Graphing.
- Kinematics, gravitational acceleration, free fall;
    - Lab: Motion;
    - Lab: Torques, Rotational Equilibrium/Centripetal Force.
- Work, energy and power;
    - Lab: Work and Power.
- Heat, temperature, internal energy;
    - Lab: Thermometer Fixed Points.
- Phase changes, heat transfer, vapor pressure;
    - Lab: Specific Heat.
- Pressure in liquids, the circulatory system and other medical applications; Osmosis, viscosity, absorption and adsorption;
    - Lab: Archimede's Principle.
- Electricity, magnetism, electric circuits, instrumentation and electrical safety;
    - Lab: Ohm's Law/ Electromagnets.
- Wave motion, hearing and vision;
    - Lab: Speed of Sound in Air.
- Modern physics and clinical applications;
    - Lab: Reflection and Refraction.
- Nuclear radiation;
- Lab: Nuclear Radiation.

Learning Outcomes: For information purposes only.

VPAA: Revised 11/11, 6/12, 6/13, 7/14, 8/15, 8/16, 8/17

IV. Course Competencies, Learning Outcomes and Objectives

A. General Education Competencies and Course Outcomes

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1. Integral *General Education Competency or competencies*:

   Evaluate and utilize mathematical principles, technology, scientific and quantitative data.

2. Supplemental *General Education Competency or competencies*:

B. Other Course Objectives/Standards

- Recognize the general nature of physics, the use of physical quantities, methods of measurement and units.
- Plot data and interpret simple graphs.
- Examine basic principles in mechanics relevant to health sciences.
- Identify and differentiate between and among Pascal's law, Archimede's principle, Bernoulli's principle, and the Coandă effect.
- Critically discuss the physical variables characterizing a liquid flowing through a tube.
- Examine the ideal gas law and use it in solving problems.
- Determine how various physical properties of matter, such as osmosis absorption, affect the behavior of biological systems.
- Recognize basic electrical and magnetic properties of matter and analyze their significance to biological systems and to their functions.
- Analyze the basic properties of light and waves and their relationship to biological systems.
- Recognize the basic atomic properties of matter, including radioactivity and its effects on biological tissue

Copy and Paste the SCNS Course Profile Description below (http://scns.fldoe.org/scns/public/pb_index.jsp).

PRINCIPLES OF PHYSICS WITH APPLICATIONS TO HEALTH RELATED FIELDS. 1. TO EXAMINE SELECTED PRINCIPLES IN MECHANICS, HEAT, ELECTRICITY, SOUND, LIGHT, AND RADIATION AS THEY APPLY TO HUMAN PHYSIOLOGY 2. TO STUDY OTHER APPLICATIONS IMPORTANT TO STUDENT OF THE HEALTH SCIENCES

ICS code for this course	ADVANCED AND PROFESSIONAL - 1.11.19 - PHYSICAL SCIENCES
Should any major restriction(s) be listed on this course? If so, select "yes" and list the appropriate major restriction code(s) or select "no".	No
Is the course an "International or Diversity Focus" course?	No, not International or Diversity Focus
Is the course a General Education course?	Yes
Is the course a Writing Intensive course?	No
Is the course repeatable*? (A repeatable course may be taken more than one time for additional credits. For example, MUT 2641, a 3 credit hour course can be repeated 1 time and a student can earn a maximum of 6 credits). *Not the same as Multiple Attempts or Grade Forgiveness	No
Do you expect to offer this course three times or less (experimental)?	No

Impact of Course Proposal	
Will this new course proposal impact other courses, programs, departments, or budgets?	Yes
If the answer to the question above is "yes", list the impact on other courses, programs, or budgets?	Last year some of the Heath Science program changed the Physics requirement from PHY1007 to 3 credits of PHY; this change is to align the PHY curriculum to meet the needs of the health sciences students
Have you discussed this proposal with anyone (from other departments, programs, or institutions) regarding the impact? Were any agreements made? Provide detail information below.	
Dean Marie Collins supported the change in this course since it aligns better with the 3 credit PHY requirement in the Health Science programs.	

Section II, Justification for proposal

Provide justification (below) for this proposed curriculum action.
The combined course will provide health sciences students the opportunity to exploring physical concepts and principles through a hands-on approach, by performing experiments relevant to their field of study. The change from lecture and lab to a combined course will better align with the Health Sciences curriculum.

Section III, Important Dates and Endorsements Required

List all faculty endorsements below. (Note that proposals will be returned to the School or Division if faculty endorsements are not provided).
Prof George Manacheril, Prof Yadab Paudel, Prof Frank Palaia all agreed with the proposal and contributed to the changes.

NOTE: Course and Program changes must be submitted by the dates listed on the published Curriculum Committee Calendar. Exceptions to the published submission deadlines must receive prior approval from the Provost's Office.

Term in which approved action will take place	Fall 2018
Provide an explanation below for the requested exception the submission deadline.	
none	

Any exceptions to the term start date requires the signatures of the Academic Dean or Associate Vice President and the Provost prior to submission.		
Dean or Associate Vice President	**Signature**	**Date**
Provost	**Signature**	**Date**

Required Endorsements	Type in Name	Select Date
Department Chair or Program Coordinator/Director	Peggy Romeo	10/23/2017
Academic Dean or Associate Vice President	Martin McClinton	10/23/2017

Select Curriculum Committee Meeting Date	

All Curriculum proposals require approval of the Curriculum Committee and the Provost. Final approval or denial of a proposal is reflected on the completed and signed proposal.

☒ Approve ☐ Do not approve

Mary R. Myers — *Curriculum Committee Chair Signature*

12/4/17 — Date

☒ Approve ☐ Do not approve

Jeff Stewart — *Provost Signature*

12/11/17 — *Date*