SOUTHEAST COMMUNITY COLLEGE
ARTS AND SCIENCES DIVISION
Sciences
Revision Date: 07-01-21
Syllabus Statements

I. CATALOG DESCRIPTION

Course Number:	PHYS1150
Course Title	Descriptive Physics
Prerequisite(s):	A grade of "C" or higher in MATH0950 or a grade of "B" or higher in MATH0953, appropriate score on math placement test, or permission.
Catalog Description:	Conceptual survey of physics for the non-science major. Topics covered include motion, fluids, heat, electricity, magnetism, waves, and optics. Emphasis will be placed on using concepts to analyze physical problems. The course includes both lecture and laboratory time.
Credit Hours:	4.0
Class Hours:	45
Lab Hours:	30
Total Contact Hours:	75

II. COURSE OBJECTIVES: *Course will:*

A. Introduce basic rules that govern nature.
B. Provide opportunities to observe and explore consequences of these rules.
C. Provide opportunities to practice formulating logical conclusions from these rules.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

A. Student Learning Outcomes**:** *Student will be able to:*
- **1**. Identify and describe basic physical principles.
- **2**. Analyze and explain physical problems in terms of these principles.

B. General Education Learning Outcomes
- **1**. GELO #3: Critical Thinking & Problem Solving
  - Outcome: Collect, identify, interpret and analyze data.
  - Outcome: Synthesize information to arrive at reasoned solutions to problems.
  - Outcome: Evaluate ideas presented in writing, media, speech, or artistic presentations.
  - Outcome: Evaluate the validity of arguments, alternatives, data, outcomes, and/or impacts of actions.
  - Outcome: Acquire and integrate knowledge and construct relationships across disciplines.
- **2**. GELO #5: Analytical, Quantitative, and Scientific Reasoning
  - Outcome: Apply mathematical and scientific methods to solve problems from an array of contexts and everyday situations.
  - Outcome: Understand and create logical arguments supported by quantitative and scientific evidence and communicate those arguments in a variety of formats.
  - Outcome: Effectively develop strategies, algorithms, or experiments (or performing experiments) to better describe the systems or to solve the problems.
  - Outcome: Manipulate formulas, data sets, graphs, tables, etc. in a way to produce a meaningful outcome.

IV. CONTENT/TOPICAL OUTLINE (*course outline may provide more detailed information*)

A. Mechanics: kinematics, Newton's Laws, energy, momentum, and rotational motion

B. Fluids
C. Thermodynamics
D. Electrostatics and electric circuits
E. Magnetism and electromagnetic induction
F. Waves
G. Optics

V. INSTRUCTIONAL MATERIALS

A. Required Text(s):
1. Griffith, W. Thomas, Brosing, Juliet W., *The Physics of Everyday Phenomena*, 8th edition, McGraw Hill, 2009. ISBN: 978-0-07-351211-2.
2. Hewitt, Paul G., *Conceptual Physics*, Pearson.

VI. METHODS OF PRESENTATION/INSTRUCTION

A. Methods of presentation typically include a combination of the following:
1. Lectures
2. Small group discussions
3. Demonstrations
4. Laboratory exercises
5. Videos

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:
1. Quizzes
2. Class participation
3. Laboratory work
4. Homework
5. Exams

B. SCC GRADING SCALE:

A+	95-100	C+	75-79	F	59 or less
A	90-94	C	70-74		
B+	85-89	D+	65-69		
B	80-84	D	60-64		

VIII. SPECIFIC COURSE REQUIREMENTS

A. None