



A division of St. Francis Methodist School

## **Curriculum Description for St. Francis Baccalaureate**

### **GENERAL PHYSICS 1 - PHYS 211**

**Course Title:** Phys 211 General Physics 1

**Course Description:** Calculus-based treatment of the laws of motion, energy, momentum, circular motion, gravitation, waves, and sound. Prerequisite: MATH 112 and 222 or consent of instructor. Lecture and laboratory. Credit 5 hours.

**Attendance:** Regular attendance is highly recommended.

**Outcomes:** So that the student will have:

1. knowledge of basic processes, concepts and principles of the laws of motion, energy, momentum, circular motion, gravitation, waves, and sound;
2. knowledge and understanding of the concepts and laboratory techniques found in general physics;
3. knowledge of metric measures;
4. proficiency in organization and use of laboratory equipment;
5. proficiency in process skills, including identifying and controlling variables, interpreting data, formulating and testing hypotheses and experimenting.

**Course Objectives:** Upon completion of this course, the student will be able to:

1. state the fundamental physical laws of motion, energy, momentum, circular motion, gravitation, waves, and sound;
2. use calculus and algebra in solving problems in the fields mentioned in the objective above;
3. use the concept of a vector along with basic trigonometry to solve a wide range of problems;
4. utilize basic problem solving processes, including observation, inference, measurement, prediction, use of numbers, classifying and use of space and time relationships;
5. use computers to run physics tutorials, perform laboratory experiments and analyze and graph data;
6. correctly use measuring devices and other equipment introduced in the lab;
7. work effectively in group situations.

**Instructional Methodologies:** Classes will consist of lectures. The laboratory portion of the course will consist of a series of experiments performed during the semester.

**Textbook:** University Physics, Eleventh Edition by Hugh D. Young and Roger A. Freedman. Addison-Wesley Publishing Company, Reading, Massachusetts.

**Course Requirements:**

1. **Quizzes** A quiz will be given near the end of each chapter. The instructor will give the class at least one day prior notice of a quiz. Makeup quizzes will not be given.
2. **Calculus Tests** Three tests will be given during the semester. The instructor will give the class at least one week prior notice of a test. Makeup tests will not be given.
3. **Laboratory** The laboratory will consist of approximately ten experiments performed during the semester. Lab reports will be due at the end of each lab period and are not to be taken home. If a student misses a lab he/she may perform a makeup lab at the end of the semester provided the student has a verifiable written excuse from a doctor or he/she has discussed the matter with the instructor prior to the lab date. The makeup lab will be different from any of the labs given during the semester. If a student misses more than one lab during a semester a zero will be entered for each additional lab missed.
4. **The Final** All students are expected to take the final exam at the designated time and place. No makeup exams will be given.

<b>Evaluation:</b>	Quizzes	500 points (54%)
	Calculus Tests	150 points (16%)
	Lab	135 points (15%)
	Final Exam	<u>135</u> points (15%)
	Total	920

**How to Calculate Your Grade:**

Quiz Grade = (100)(sum of your quiz scores/total quiz points possible)

Lab Grade = (100)(sum of your lab scores/total lab points possible)

Calculus Test Grade = 100(sum of your calculus test scores/total calculus test points possible)

Current Grade (before final exam) = (0.64)(Quiz Grade) + (0.17)(Lab Grade) + (0.19)(Calculus Test Grade)

Final Grade (after final exam) = (0.54)(Quiz Grade) + (0.15)(Lab Grade) + (0.16)(Calculus Test Grade) + (0.15)(Final Exam Grade)

Grade	Letter Grade
97-100	A+
93-96	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
60-62	D-
0-59	F

**Disability Clause:** If you have any condition or situation that you feel prevents you from doing your best work in this course, it is your responsibility to bring that condition or situation to the attention of the instructor or the college administration. It is important that we are informed early in the term so that we can make appropriate arrangements for assistance.