***Syllabus and Course Schedule***

**INDIAN RIVER STATE COLLEGE**

**Fall Semester, 2017**

**Principles of Physics LECTURE**

**Physics 1020**

**Course Title:     Principles of Physics (Lecture)**

**Course number:    PHY1020**  **Credit Hours:** 3

**Instructor:     Professor Voehl**      **Office:**N 316**Phone:** 462‑7519

**Office hours:**

Refer to appropriate link in Blackboard and Weebly for office hours.

**Weebly:**

This syllabus and office hours can also be found on my Weebly website:

<http://cvoehl-irsc.weebly.com/>

**Email:**            **All email correspondence will take place in Blackboard**

To receive email from this course you must activate your irsc.edu email account. Thus, all email correspondence travels through there!

Note:  Be sure to follow appropriate format when emailing instructor.

**Email protocol:  Students should use the procedure outlined below when emailing the instructor.**

Body of email:

* Full Name
* Title and reference number of the course
* Campus location
* Time of day

**Course description:**

This course is both a classic and technical physics course. It emphasizes both physical principles and physics applications in today's world. The student learns the scientific method of problem solving, as well as developing critical thinking and reasoning skills. Topics include, but are not limited to measurement, problem solving, motion, force, work, energy, simple machines, rotational motion, matter, fluids, temperature and heat, gas laws, wave dynamics, electricity, magnetism, and optics.

3 credits

### **Prerequisites:**

[MAT 1033](http://irsc.smartcatalogiq.com/en/Current/Catalog/Courses/MAT-MATHEMATICS/1000/MAT-1033) or placement scores

**Your Job:**

You should attend all lectures to learn about the basic concepts and how to apply them in solving problems, and also to hear any special announcements.  Since there is a lot to be squeezed into just two and a half hours of class per week, it is essential that you read the textbook *concurrently* with the lectures to deepen your understanding of physical principles. Finally, you are encouraged to work diligently at the homework assignments, which -- although they are not collected or graded -- can help you to improve your ability to solve problems of the kind that appear on exams.

**Problem-solving**:

Problem-solving is a skill that has to be developed, and everyone benefits from practice. *Your grade in this course will be based on your success at solving problems,* so there will be a direct payoff for your effort. You should be capable of earning an average or above average grade in the course if you have focused strongly on the examples discussed in class and complete ALL homework problems.

**Preparing for the Exams**:

The most common question I get is “What is the best way to study for the exams?” The answer is simple: work all the assigned homework problems.  You will find that the exam questions are closely related to the homework problems and to the examples worked in class.

My *exams will emphasize physical reasoning rather than memorization of facts. This reasoning will be developed by steady work over the entire semester, not by last-minute cramming.*

Memorization of the way to solve a given problem is not the way to go. Rather, think about the equations that are needed to solve the problem, why those equations are needed, and how they are related to each other.

**Learning outcome:**

Using the scientific method, critically analyze and evaluate scientific data and utilize analytical skills to solve problems relevant to the physical sciences.

**Assessment of Learning Outcome:**

Specific questions and problems will be assigned throughout the course to assessment the Learning Outcome.

**Objective:**

Seek a connection between science and the world we live in. The student will build an understanding and appreciation for physics by finding its concepts and principles within objects of everyday experience. The emphasis is on learning to think logically in order to analyze and solve problems, to develop and expand your intuition for the physical world, and to learn how things work. My lectures will occasionally cover material that is not in the text, **you should pay special attention to the examples discussed during the lectures, as they will closely relate many of the problems that appear on exams.**  The course will not cover all the material in the text. You are responsible for all the material covered during the class periods and in the assigned online work. The goal is that you will find the course interesting, challenging and enjoyable.

**Some Sensible Advice:**

It will be great if everyone passes this course. Unfortunately, some people find doing physics rather difficult. Below are a few tips to help make your adventures in physics fun.

* This course is no pushover. Physics is *based on understanding,* not remembering.
* I will do all I can to help you, but only you know whether you really understand something or not! Test yourself on homework problems. If, after attempting homework problems, you have no idea how to solve them, then you have not understood the concepts. *Do not just memorize the answers to selected problems*.
* To gain confidence on physics concepts, practice the easier problems first.
* In order to prepare for the exams make sure you understand and can do ALL the homework problems. You are strongly encouraged to do all homework problems. Do not just memorize the solutions.
* Attend all lecture classes.
* Be to class on time.
* Use the textbook. You paid good money for it! Try to find time to look over a chapter before it is covered in class.
* Come and talk to me if you need extra help.
* Find a study partner. *We strongly encourage students to study and learn together.*
* Finally, don't give up or sit for hours trying to understand the homework. Come and discuss your solution with me any of our CPI (Center for Personalized Instruction) labs. Often you will be much closer than you think to being able to solve a problem.
* Pay special attention to the examples discussed during the lectures. These usually are closely related to many of the problems that appear on exams.
* Try each homework problem on your own first. Consult your notes or the textbook for statements of basic principle or fundamental equations. If you get stuck, talk the problem over with a friend, come see me, or -- in the case of an assigned homework problem -- look up the solution in the Solutions Manual.
* Whenever you need help to complete a problem it is essential, though, that you consolidate your new understanding by successfully doing another problem of the same type *by yourself.*
* Good luck and I hope you enjoy the course!

**Lecture Hall**:  TBA                     **Laboratory:**    TBA

**Required Text:**    Voehl’s Experiments and Problems in Physics, 4th Ed.

**Recommended Text:**    Applied Physics, Prentice Hall, 10th Ed.

**Required Materials:**    Scientific calculator. Note: TI Nspire calculators, of any type, may not be used for this course.

***Note:****Personal computers may not be used in this course. Your professor will allow IPads, e-book readers, and cell phones to be used to take notes, and/or do problems in class as long as they do not become a distraction. However, the only electronic device that may be used on exams is your calculator.*

**Assessments:**

There will be 4 or 5 Unit Exams and a Final Exam. Some exams may be computer graded on Scantron scoring sheets, which means that students will bear full and exclusive responsibility for ensuring that all correct answers are completely filled in and that all incorrect answers are completely erased.  Assessments will be graded, returned, and reviewed as quickly as possible.  Exam grades will be posted online, but it is the student’s responsibility to be present when exams are returned and reviewed.

**GRADING PROCEDURE:**

90% = A, 80% = B, 70% = C, 60% = D

**Make-Up Exams:**

In exceptional circumstances, students who have a legitimate reason for missing a Unit exam may make an arrangement with the Instructor to take the test early, before the regularly scheduled exam date. No make-up tests for Unit Tests will be given after the regularly scheduled test date under any circumstances.  A student may drop their lowest test grade (but not the final exam).  Thus, if you must miss an exam, that exam may be used as your drop exam.

*The Final Exam may not be thrown out, or rescheduled (either early or late) under any circumstances.*

**Attendance:**

Regular classroom attendance is essential for maintaining appropriate progress in this course.  As such, attendance is mandatory, and roll will be taken.

Students who arrive late or leave early (including students who leave the classroom for bathroom breaks or other reasons) will be counted as absent for that class session, and *may* not be allowed to participate in lab or exam activities for that given day.  If a student comes in late to a lab or exam, that student may be asked to leave and be given a "0" for that day’s activity.

If a student is habitually late for class, misses class, or disrupts class by leaving the classroom for bathroom breaks or other reasons, the instructor may, at his discretion, reduce the students' final grade by a factor of 5 points for each class session missed (courses that meet twice a week) or 10 points for each class section missed (courses that meet once a week).  Students taking courses that meet twice a week will be allowed to miss (or be late) 4 class sessions before this policy is implemented. Students taking courses that meet once a week will be allowed to miss (or be late) 2 class sessions before this policy is implemented.

**Start of each session:**

This course will start precisely on time (EST) on scheduled class days.  Students bear the full and complete responsibility of signing in before the start of class.

Students are responsible for all announcements made in class, including notifications of test dates and due dates for assignments.

Each student is responsible for securing safe travel to the campus, scheduling their personal lives to be able to attend and study for class, and driving no faster than the speed limit to arrive to class early enough to safely sign in and get ready for class.

**Extra Credit:**

Pending attitude and performance, extra credit may be given to those students who have perfect attendance.

**Classroom Decorum:**

Students will be expected to exhibit a consistent level of courtesy and consideration that is appropriate for an academic environment. Such decorum would include arriving for class on time, remaining for the duration of the class, and refraining from all extraneous conversation during class time (students who arrive late or leave early will be counted as absent for that class session). Students who are in any way discourteous or disruptive will be asked to leave the classroom, and they can expect to receive both academic and disciplinary penalties, including complete loss of credit for the course.

**From the Vice President:**

“The use of cell phones is prohibited during class at IRSC.  All cell phones must be set on silent during the class period.   Any student who uses a cell phone to make or answer a call, or send and read text messages or emails, other than IRSC emergency messages during class time may be asked to leave and may be considered absent for that class. ***No student has the right to disturb the teaching and learning process.”***

**Academic Integrity:**

Any student found guilty of cheating in any form will automatically receive a grade of “F” for the course and will be referred to the Vice-President of Student Affairs for possible disciplinary action that could include probation, suspension, or expulsion.

**Disabled Students:**

If you have been certified by [Student Disability Services](http://www.ircc.edu/portal/layout_web1.aspx?AdminEdit=False&PortalPageID=163) to receive special accommodations (such as extended time for test taking), please contact your instructor to make the necessary arrangements. If you fail to do so well in advance of the assignment in question, it will be taken as an indication that you can complete the assignment without any special accommodations.

**Withdrawal Deadline:**

Please pay close attention to the semester deadline for withdrawing from a course without receiving a failing grade (the deadline is published in the College Catalog, the Student Handbook, and the Semester Course Schedule).  Please be sure to contact instructor before making the final decision to withdraw.

Instructor Withdrawals after that date can be given only in the most extreme circumstances, such as lengthy hospitalization. Instructor Withdrawals cannot be given because of poor academic performance.

**Incompletes:**

Incomplete's, at the instructor’s discretion, will be given only in cases of very unusual or emergency circumstances.  You must be doing at least "C" work at the time that the incomplete requested.

**Non-Discrimination and Non-Harassment Policy:**

Indian River State College (College) is committed to maintaining a fair and respectful employment and educational environment. In accordance with federal, state and local equal opportunity laws, Indian River State College prohibits discrimination on the basis of race, color, national origin, ethnicity, sex, religion, age, disability, sexual orientation, marital status, veteran status, or genetic information.

[**RiverLife**](https://irsc.collegiatelink.net/):

RiverLife is our online student life portal utilized by the Division of Student Affairs to centralize, organize, and increase student, staff, and faculty involvement opportunities to build a “Culture of Engagement.” This platform provides the tools for managing registered organizations and empowering learning across Indian River State College (IRSC). Prospective organizations as well as existing organizations use the RiverLife database to register as an organization with the Division of Student Affairs.

Connect! Lead! Get Involved!

RiverLife is your source to connect learning and involvement:

* Keep up-to-date on activities & events
* Join student organizations
* Network with other students & college departments
* Capture your student life experiences through reflections & pictures
* Access leadership development opportunities
* Develop your co-curricular transcript
* Track community service hours easily

## How to log into RiverLife:

**Student Access:**
through MyIRSC
 **>>** log-in with student ID and pin
 **>>** click RiverLife icon under Quick Links

If you are experiencing difficulty in your course, your first obligation is to work directly with your instructor to resolve the issue. If you are unable to settle your concerns with the assistance of your instructor, you can contact the Department Chair (Michael Jones, 462-7855), who will assist you or advise you about contacting the Academic Dean (Dr. Horton, 462-7503) or Vice President (Dr. Cronin, 462- 7215).