COURSE SYLLABUS

Phy142.01 – Introduction to Physics III

Credit Hours: 4

Fall, 2007

Farrington Building, Room 209

MWF – 11:00-11:50 a.m.

Instructor: **Dr. Gan Liang**
Voice: (936)-294-1608 (Office) and (936)-294-3683{Lab)
Fax: (936)-294-1585
Email: phy_gnl@shsu.edu

Office Location: **Farrington Building Room 204F**

Office Hours: Monday, Wednesday, Friday 1:00 p.m. – 3:00 p.m.

Other times are available by appointment only.

These office hours are subject to change during the semester for a variety of university-related functions or instructor illness. Notification will be made by posting an announcement on the "Blackboard" area for this course.

Course Description: **Introduction to General Physics III**: An introduction to the general topics of electricity and magnetism, and basic electric circuits. The emphasis continues to be on problem solving with the laboratory/problem session an integral part of the course. Prerequisites: PHY141 and MTH 143. Credit 4. The course consists of the following parts: lectures, homework, exams, and laboratory work.

Required Textbook: David Halliday, Robert Resnick, and Jearl Walker, Fundamentals of Physics, 7^{th} ed. (John Wiley & Sons, Inc., 2005).

Optional Textbook: None

Chapters to be Covered: Chapter 21 - 32.

For some chapters, only selected sections will be covered. Additional material of the textbook could be covered at the discretion of the instructor.

Course Objectives:

- ❖ Understand the basic properties of charges and the fundamental role of the Coulomb's law in electricity and magnetism theory. Use Coulomb's law to define electric field and derive Gauss law.

- ❖ Understand electric potential and learn several basic methods of calculate electric fields from given charge distribution

- ❖ Understand how voltage, current, capacitance, and resistance are defined in physics, and use Ohm's law to solve problems involving simple electric circuits.

- ❖ Understand how magnetic field is defined and how Ampere's law is derived. Familiar with some basic techniques of calculating magnetic field in space from given electric current distribution.

- ❖ Study the Faraday's law of induction and magnetic field in matter, derive the Maxwell's Equations for electromagnetic fields. Further use the Faraday's law to study LC circuit and AC current.

Required Supplies: The following supplies are required for this course:

(1) Pen,
(2) #2 pencils
(3) Notebook or ring binder
(4) 8.5×11 paper
(5) Eraser
(6) Scientific calculator with the following functions: sine, cosine, square root, exponentiation, scientific notation
(7) Textbook
(8) Scantron Form No. 882-E

Assignments: For each chapter of the textbook, homework will be assigned. However, only some of the assignments will be collected and graded. Each question or problem will receive a maximum of ten points toward your homework grade. At the end of the semester, each homework will be normalized to a 100 point scale. Problems that do not have sufficient work (for example, only the answer is present) will be given a 50% reduction when grading. You are encouraged to work, on your own initiative, as many questions and problems as possible for all the assigned homework. The homework will be due at the end of the class on the due day. Later homework will not be accepted. The definition of "Later" includes, but not limited to homework placed in the instructors mailbox, submitted electronically or by Fax. Late homework will automatically be given a grade of zero.

Exams: Exam One, Chapters 21-23.
Exam Two, Chapters 24-27.
Final exam, Chapters 28-32.

Exam content, schedule, and number of exams are subject to change.

Make-up exams will not be given without a valid medical excuse signed by a licensed physician or the student is in compliance with the School's Religious Holiday policy. Student is responsible for knowing the final exam schedule.

Unless advised differently by instructor all exams will be closed book and closed notes. Each exam will be in the form of combination of problems and multiple choice questions.

Grading Plan:

90 up A
80 - <90 B
70 - <80 C
60 - <70 D
<60 F

Attendance ……..8 %

Homework: .....…….12%

Exam One …… 15%

Exam Two …… 15%

Final exam:.....25%

laboratory/problem session …….25%

Attendance Policy: Attendance at lectures is required. Excessive (more than three times) absences may result in a serious lowering of the final grade. The instructor will check the class attendance no less than five times during the semester. Attendance will be used to calculate your final grade of this course (see below). If there is a good reason for each absence, this must be submitted in writing to the instructor. Attendance at exams is mandatory.

Religious Holidays: Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuses a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20…." A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a

scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed. For a complete listing of the university policy, see: http://www.shsu.edu/~vaf_www/aps/documents/861001.pdf

Academic Dishonesty:

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials. For a complete listing of the university policy, see: http://www.shsu.edu/administrative/faculty/sectionb.html#dishonesty

Classroom Rules of Conduct:

Students are expected to maintaining a classroom environment that is conductive to learning. Students are to treat faculty and students with respect. Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dear of Students for disciplinary action in accordance with university policy.

Visitors in the Classroom:

Only registered students may attend class. Exceptions can be made on a case-by-case basis by the professor. In all cases, visitors must not present a disruption to the class by their attendance. Students wishing to audit a class must apply to do so through the Registrar's Office.

Students with Disabilities Policy

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from

participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance are expected to visit with the Office of Services for Students with Disabilities located in the Counseling Center . They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Counseling Center . For a complete listing of the university policy, see: http://www.shsu.edu/~vaf_www/aps/811006.html

Dropping Course: The instructor will not automatically drop a student. It is the student's responsibility to be aware of the final drop date and to drop if he or she deems it is necessary. Should you encounter any course difficulties during the term and need help, do not hesitate to ask and do not wait too late.

Grievances: Students should express grievances outside of class to your instructor first then to others in the following order, Department Head, and Dean.