

**PRAIRIE VIEW A&M UNIVERSITY**  
**DEPARTMENT OF PHYSICS**  
**PHYS 4993- SENIOR RESEARCH PROJECT (PHYS 4473- SENIOR RESEARCH PROJECT)**  
**COURSE SYLLABUS - SPRING Y2K+9**

<b>Professor:</b>	<b>Dr. A. Anil Kumar</b>	<b>E-mail:</b>	<a href="mailto:aakumar@pvamu.edu">aakumar@pvamu.edu</a>
<b>Office:</b>	<b>Room 330C, New Science Building</b>	<b>Meeting Time:</b>	<b>R 2:00 P.M. – 4:50 P.M.</b>
<b>Phone:</b>	<b>(936) 261-3130 (Office)</b> <b>(281) 890-0848 (Home)</b>		<b>New Science Building, Room 323</b>
		<b>Office hours:</b>	<b>By appointment</b>

**CATALOG DESCRIPTION**

Capstone Project. Covers integrated project team concepts, ethics, responsibility, fiscal aspects, culminating in a comprehensive report and a presentation. Prerequisite: Completion of at least 30 hours of physics or engineering.

**COURSE DESCRIPTION**

The course will be conducted in the form of a research project consisting of a set of meetings, reading assignments, writing and submission of weekly reports, preparation of a comprehensive syllabus for a course in physics and chemistry or composite science, periodic presentations to the class and a final comprehensive presentation to selected faculty in the College of Arts & Sciences and the College of Education. All the relevant materials will be posted at <http://www.pvamu.edu/physics/Phys-4473.htm>.

**GOALS**

By the end of the course, you should, at a minimum:

- Demonstrate an understanding of the principles, mechanisms and concepts in physics and how they are applied and implemented in real life scenarios;
- Be able to design and build (as appropriate) a simulated system; and
- Explain the relationship between the simulated system and a real system.

**OUTCOMES**

1. Weekly written reports on progress achieved.
2. Periodic presentations on progress.
3. A comprehensive presentation at Mid-Term.
4. A well-designed and implementable experiment on tailhooking.
5. A final comprehensive presentation during final week.

**PROJECT TIMELINE**

During your first week you must develop a project management timeline with milestones (for example a Gantt Chart) for the tasks you will be conducting over the next five weeks. You must develop your own depending upon the sequence of tasks you are going to lay out. You may need to revisit the chart depending upon your progress, any challenges you may encounter, etc.)

A **Gantt chart** is a horizontal bar chart developed as a production control tool in 1917 by Henry L. Gantt, an American engineer and social scientist. Frequently used in project management, a Gantt chart provides a graphical illustration of a schedule that helps to plan, coordinate, and track specific tasks in a project. Gantt charts may be simple versions created on graph paper or more complex automated versions created using project management applications such as Microsoft Project, Excel or Milestones. A good site to visit to learn and implement a Gantt Chart for your project is [http://www.mindtools.com/pages/article/newPPM\\_03.htm](http://www.mindtools.com/pages/article/newPPM_03.htm) .

Also visit the following websites for more examples, questions/answers, etc.:

<http://www.netmba.com/operations/project/gantt/>

<http://www.smartdraw.com/examples/gantt/index.htm>

<http://www.me.umn.edu/courses/me4054/assignments/gantt.html>

[http://www.edwardtuft.com/bboard/q-and-a-fetch-msg?msg\\_id=000076&topic\\_id=1](http://www.edwardtuft.com/bboard/q-and-a-fetch-msg?msg_id=000076&topic_id=1)

## **PERFORMANCE EVALUATIONS**

### **Weekly Reports**

You are expected to submit, through e-mail, a weekly report on before close of business each Monday. Each report should clearly summarize the previous week's activities, accomplishments, progress towards the goals, any challenges faced, and a clear summary of the proposed activities and outcomes for the following week. The Final Report is a comprehensive one that should be written in the form of a paper that summarizes the entire semester's activities and results. Formats for the reports and the paper will be provided through e-mail.

### **Grading Policy**

Your grade, in particular the final grade, will be determined on a combination of your performance in the activities stated above. In order to obtain a proper grade, I need to be convinced that you have acquired the necessary knowledge from the course. The following is the overall grade distribution among the various types of assignment.

Weekly Reports	50 Points each
Periodic Presentations	50 Points each
Final Report	200 Points
Final Presentation	100 Points
Design and Implementation	200 Points

## **STUDENTS WITH DISABILITIES**

All lectures will be conducted in the New Science Building, Room 323, which is accessible to persons with disabilities. If you need accommodations in this class related to a disability, please make an appointment with me as soon as possible. My office is located in Room 330C, New Science Building. There is an Office of Disability Services on the campus located in Evans Hall Room 315, Tel: (936) 857-2610. More information is provided on Pages 5 and 39 of the **Registration and Term Information Spring 2007** booklet, available online at <http://www.pvamu.edu:80/pages/2112.asp>.

## **CONDUCT AND ETHICS**

A strict code of ethics will be imposed during the entire session. You shall take a pledge that you will not copy, steal or plagiarize someone else's work nor will you tolerate anyone else doing the same. You must ensure that all your reports are written by you in your own words. Any material taken from a published report (in print or on the web) must be given appropriate credit by providing a reference. Read the copyright statement carefully so that the conditions under which the report or some material from it is cited, are met. It shall be the policy in this course to discourage any such activity to the extent possible rather than punish. **HOWEVER, IN FAIRNESS TO ALL CONCERNED, CHEATING AND PLAGIARISM WILL BE DEALT WITH SEVERELY WHEREVER THEY ARE FOUND.** You are advised to read and abide by the rules and the regulations of the University as mentioned in the Catalog, in particular the topics Student Life and Academic Regulations. Graduating means more than completing a certain number of hours and obtaining a reasonable GPA. You must strive to develop a code of strict conduct, acquire a sense of discipline, serve as a role model to your juniors and in particular experience the feeling of accomplishment.

If you have any questions or have any problems that you think I may be able to help with, please do not hesitate to contact me. I am here to help. Learning does hurt. But I am here to make it hurt a little less.

*HAVE A PRODUCTIVE AND AN ENJOYABLE SEMESTER!*