

PHY 112

Introduction to Engineering Physics II

Dillard University – Spring 2005

Meeting Times:

001 M (1:00 PM- 2:50 PM) Main Campus / Stern Hall / 321 ***THIS REALLY SHOULD BE 123***

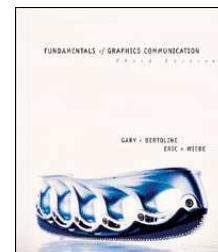
901L W (1:00 PM- 2:50 PM) Main Campus / Stern Hall / 123

Instructor: Rob Salgado Office: Stern 307A Voice: (504)-816-4510	E-mail: rsalgado@dillard.edu Instant-Messengers: AOL, MSN, Yahoo: dillardphysics (do not email here)	Office hours: -to be announced
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Catalog Description:

PHY 112 Introduction to Engineering Physics II (3 credits)

An introduction to engineering graphics and computer aided graphics using AutoCAD covering engineering fundamentals/problem of basic engineering graphics (terminologies, virtual symbolisms, lettering, engineering specifications and ethics); basic geometric constructions, descriptive geometry, multiview projection, auxiliary view, isometric projection dimensioning and manufacturing processes. Class meets two hours per week for lecture and two hours per week for laboratory.



Required Textbook:

“**Fundamentals of Graphics Communication**” by Gary R. Bertoline and Eric N. Wiebe
(McGraw-Hill: ISBN: 0-07-232209-8 (3rd edition))

Electronic Materials:

I will maintain a website (for now: <http://physics.syr.edu/~salgado/112/>) that lists the assigned problems and solutions. I will also try to make available the whiteboard/PowerPoint notes and any computer source code (e.g., Python, Maple) that I use for simulations or computations.

The main textbook has a VERY useful website: <http://higher.ed.mcgraw-hill.com/sites/0072322098/>

Other Materials:

You will need to obtain your own set of drawing instruments. Refer to the “**REQUIRED EQUIPMENT FOR PHY 112**” sheet (page 3).

Classroom Rules:

Come to class **ON TIME**. Attendance is **REQUIRED**.

“*Academic dishonesty will not be tolerated.*” (2003-2005 University Catalog, page 15)

Come to class **PREPARED** and **EQUIPPED**, having read or written any assignments. Bring your **EQUIPMENT** and **TEXT**.

Limit all discussions to the **PHYSICS** topic under discussion.

Turn OFF all phones, pagers, radios, and other disruptive devices.

Grades:

30% **HOMEWORK** (FORMAT: textbook problems)

40% **LABWORK**

30% **FINAL PROJECT** (FORMAT: technical drawing)

A≥88%, B≥76%, C≥64%, D≥50%, F<50%. This class is not graded on a curve.

Borderline cases (between two letter grades): If your scores show an upward trend, your grade may be nudged upwards.

Exams:

There are no exams.

Homework and Lab-work:

Homework and lab-work will be assigned and graded. If you need help with your homework, please visit me (with your textbook and your notebook and with proof that you have tried the problems) during Office Hours... the sooner the better.

LATE homework or lab-work will be penalized.

You will submit some of your homework and lab-work electronically by email. Use a floppy disk or USB-flashdrive to store your work.

Quality of Work:

In technical and graphical communication, **Accuracy** and **Clarity** (including Neatness and Conformance to Standards) are quite important and will significantly contribute to the grades you earn.

You may improve your grade on a drawing assignment by resubmitting it (or a new version of it) within one-week-after-it-has-been-graded-and-retuned-in-class.

If you are absent or you did not collect your graded work when it is returned in class, it is your responsibility to collect your graded work in a timely fashion (possibly outside of class) so that you can resubmit it within the above one week period.

Sequence of PHY 112 topics that I will emphasize and the Learning Objectives:

Chapter 1: Introduction to Graphics Communication and Sketching

Understand the importance of good Graphics Communication. Develop skills for basic sketching and lettering.

Chapter 2: The Engineering Design Process (reading assignment)

Understand the stages of the Engineering Design Process.

Chapter 3: Engineering Geometry

Accurately describe and draw geometric representations of objects.

Chapter 4: Design Visualization

Chapter 5: 3-D Solid Modeling

Develop skills for the visualization of 3-D objects.

Chapter 6: Multiviews and Auxiliary Views

Chapter 7: Pictorial Projections

Chapter 8: Section Views

Develop skills for the representation of 3-D objects.

Chapter 9: Dimensioning and Tolerancing Practices

Develop skills for graphically communicating shapes and sizes within specified tolerances.

These topics will involve technical drawing with standard drafting tools and with computer-based tools like AutoCAD.

January						
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	24		26			
	31					
February						
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March						
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April						
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	18		20			
	25		27		F	
May						
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Dates of which you should be aware:

AAPT Winter 2005 Meeting (Mon, Jan 10 – Wed, Jan 12 ****special arrangements will be made****)

Martin Luther King, Jr. Holiday (Mon, Jan 17 **** no class ****)

Mardi Gras Holidays Labor Day (Mon, Feb 7 – Wed, Feb 9 **** no class ****)

Midterm Period (Tue, Feb 22 – Fri, Feb 25) [Grades due Feb 28]

Spring Break (Mon, Feb 28 – Fri, Mar 4 **** no class ****)

Academic Advising Day (Wed, Mar 9 **** no class ****)

Easter Holiday (Fri, Mar 25 **** no class ****)

Seniors: Last Day (Thu, Apr 14), Exam Period: (Mon, Apr 18 - Wed, Apr 20)



Last Day to Withdraw (Wed, Apr 20)

Last Day of Classes: (Wed, Apr 27)

Exam Period: (Fri, Apr 29 - Thu, May 5) [Grades due Mon, May 9] - the final project is due at the assigned date and time. No exceptions.

REQUIRED EQUIPMENT FOR PHY 112

[QUIZ #1 (10 pts): show me your PHY112-equipment at the start of class on Wed, January 19, 2005]

- 1 pad of Quartile Graph Paper (4 squares to an inch)
- 1 45-degree right triangle
- 1 30-60-degree right triangle
- 1 “Mechanical Engineer’s Scale”
- 1 drafting brush
- 1 T-square
- 1 roll of drafting tape / drafting-dots
- 1 protractor
- 1 Ames Lettering Guide → 
- 1 compass
- 2 mechanical pencils (0.5mm)... one will use 2H-lead and the other 2B-lead [see below]
- 1 eraser (vinyl-type, not the pink-type)
- 1 erasing shield → 
- 1 3.5”-floppy disk or USB-flashdrive [to store your AutoCAD drawings]

The following kits do provide some of the items above:

- <http://www.officedepot.com/ddSKU.do?level=SK&id=448601>
Staedtler® Drafting Kit, 12 Piece

Includes: lead, lead holder, lead pointer, master bow compass, 6" protractor, 8" and 10" triangles, plastic eraser, erasing shield, dusting brush and 12" architectural scale. Comes in a sturdy plastic carrying case with an easy-open zip lock.

- <http://www.officemax.com/max/solutions/product/prodBlock.jsp?prodBlockOID=536947808>
Drafting Starter Kit.
Item # 11155849 , Style # 37108
Helix Drafting Starter Kit

Provides a selection of quality technical level drafting and design tools to meet the various requirements of students and professionals. Includes professional compass, 12" architects scale, mechanical pencil, replacement leads, professional eraser, erasing shield, 6", 180 degree protractor, 30/60/90 degree triangle, 45/45/90 triangle, mini-dusting brush, and plastic carrying case.

Pentel Lead Refills

2B “soft” for drawing lines

2H “hard” for drawing construction-lines

<http://www.officemax.com/max/solutions/product/prodBlock.jsp?prodBlockOID=53256>

http://www.officedepot.com/ddSKU.do?level=SK&id=710186&location_info=SK_710186

http://www.officedepot.com/ddSKU.do?level=SK&id=929380&location_info=SK_929380

You can also find many of these items at a store specializing in Art Supplies or in a University Bookstore.