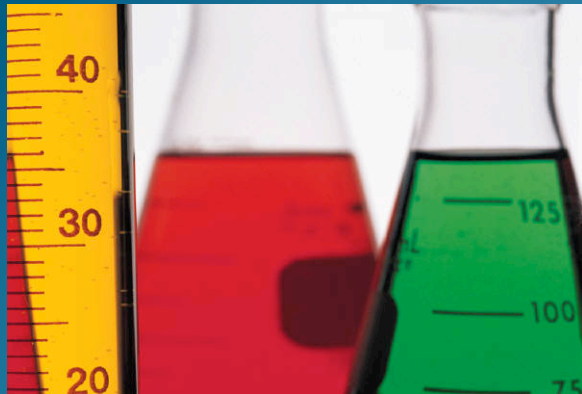


# Pizza Advising

## Physics Department

Fall 2010





# Getting Classes

- **Registration: November 2**
- Can't get a physics class? **email the instructor immediately** and let him/her know you are a major.
- Probably can't help day before classes.



# Know your advisor

## Keep track of progress

- **Get to know your advisor.** If you don't like him/her, Rosa can assign you to someone else.
- **Curriculum sheet!!** Keep track of courses and requirements met.

# Curriculum sheet

## BS-PHYSICS

NAME \_\_\_\_\_

STUDENT ID \_\_\_\_\_

CONCENTRATION \_\_\_\_\_

MINOR \_\_\_\_\_

Major GPA at least 2.00 \_\_\_\_\_ → → [ ] YES [ ] NO

US Cultural Pluralism Met ++ \_\_\_\_\_ → [ ] YES [ ] NO

60 Units Upper Division Met Taken Remaining \_\_\_\_\_ → [ ] YES [ ] NO

GWR Met \_\_\_\_\_ → [ ] YES [ ] NO

Upper Div GE Met Taken Remaining \_\_\_\_\_ → [ ] YES [ ] NO

Free Electives Met \_\_\_\_\_ → → [ ] YES [ ] NO

2009-2011 → updated 06.15.09 → Units Required 180

DEGREE DATE	Earned Hours	Quality Hours	Quality Points	GPA
Transfer				
Cal Poly				
Transcript Totals				
		<= Units that are NOT Degree Applicable		
		<= Degree Applicable Units		

Section Break (Continuous)

\* = Courses satisfy GE requirement

Note: Major courses with lab component may not be taken credit/no credit.

MAJOR COURSES (112)	Units	Grade	Grd Pts
PHYS 141 General Physics IA (B3)*	4		
PHYS 132 General Phys II (B3&B4)*	4		
PHYS 133 Gen Physics III (B3&B4)*	4		
PHYS 202 Physics on the Computer	4		
PHYS 206 Instr in Exper Physics	3		
PHYS 211 Modern Physics I	4		
PHYS 212 Modern Physics II	4		
PHYS 256 Elec Measurements Lab	1		
PHYS 301 Thermal Physics I	4		
PHYS 302 Classical Mechanics I	4		
PHYS 322 Vibrations and Waves	3		
PHYS 340 Quantum Physics Lab I	2		
PHYS 341 Quantum Physics Lab II	2		
PHYS 405 Quantum Mechanics I	4		
PHYS 408 Electro Fields & Waves I	4		
PHYS 461 or PHYS 463	2		

GENERAL EDUCATION (GE)	Units
72 units required; 12 of which are specified in Major	60
Minimum of 12 units required at the 300 level	
<b>Area A - Communication</b>	<b>12</b>
A1 ENGL 133/134	4
A2 COMS 101/102	4
A3 Reason, Arg. & Writing	4
<b>Area B - Science and Mathematics</b>	<b>4</b>
B2 Life Science	4
<b>Area C - Arts and Humanities</b>	<b>20</b>
C1 Literature	4
C2 PHIL 230/231	4
C3 Fine/Performing Arts	4
C4 Upper-division elective	4
C1-C4 elective	4
<b>Area D/E - Society and the Individual</b>	<b>20</b>

# 1<sup>st</sup> year

- **Connect** with students/faculty
- Courses
  - **Phys 141, 132** -- Mechanics, Waves/Heat
  - (possibly **Phys 133** -- Elec/Mag)
  - **Math 141, 142, 143** (possibly **Math 241**)

## 2<sup>nd</sup> year

- After Phys 211 offered once/yr (at most)
- Courses
  - **Phys 133** – Elec/Mag
  - **WINTER: Phys 211** (Modern), **Phys 206** & **256** (Electronics)
  - **SPRING: Phys 212** (Modern II), **Phys 202** (Physics on the Computer)
  - **Math 241, 244, and 344**
- Optional courses
  - **Phys 357** - Instrumentation (Spring)



# Transfers

- Are you trying to complete in 2 or 3 years? **We recommend 3 years.**
- Required Courses
  - **WINTER: Phys 211** (Modern), **Phys 206 & 256** (Electronics)
  - **SPRING: Phys 212** (Modern II), **Phys 202** (Physics on the Computer)
  - **Math 344** and **304**

## 3<sup>rd</sup> year

- Required Courses (2007 catalog)
  - FALL: **Phys 302** (Mechanics), and **Phys 340** (Qlab)
  - WINTER: **Phys 301** (Thermal), **Phys 323** (Optics), **Phys 341** (Qlab II)
  - SPRING: **Phys 405** (Quantum), **Phys 342** (Qlab III)
  - **Math 304** - Vector Analysis
- Required Courses (2009 catalog)
  - FALL: **Phys 302** (Mechanics), **Phys 322** (Vib/waves) and **Phys 340** (Qlab)
  - WINTER: **Phys 301** (Thermal), **Phys 341** (Qlab II)
  - SPRING: **Phys 405** (Quantum)
  - **Math 304** - Vector Analysis



# 4<sup>th</sup> year +

- Required Courses
  - **Phys 408** E&M Fields/Waves I (Fall)

# Electives 2011

- Winter 2011
  - Phys 303 – Analytical Mechanics II
  - Phys 323 – Optics
  - Phys 403 – Nuclear and Particle Physics (?)
  - Phys 409 – E&M Fields/Waves II
  - Phys 410 – Physics of the Solid Earth
  - Phys 452 – Solid State Laboratory
- Spring 2011
  - Phys 310 – Physics of Energy
  - Phys 313 – Introduction to Atmospheric Physics
  - Phys 342 – Quantum Physics Laboratory III
  - Phys 357 – Advanced Instrumentation in Experimental Physics
  - Phys 413 – Advanced Solid State Physics
  - Phys 423 – Advanced Optics
- Fall 2011
  - Phys 412 – Solid State Physics

# Computer Elective

Many areas of physics are data and computer intensive, such as:

- Astronomy
- High Energy Physics
- Computational Physics

If you think you might want to do research projects in these areas, or you are interested in computers, we recommend CSC 234, “C and UNIX”

CSC 234 counts as a physics elective

Pre-requisite: Math 142

Offered **EVERY** quarter

Consider taking it first/second year

# General



- Interested in teaching high school?
  - See John Keller, Chance Hoellwarth or Nancy Stauch
  - Get involved early
- Electronics and Electro-optics concentrations
- Astronomy minor
- B.A. in physics needs 60 Upper-division units (not built into curriculum).



# Cal Poly Summer Research

- Sophomores/juniors (get started early so you can cite it on grad school applications)
- Paid summer research experience w/Cal Poly physics professors
- Talk to faculty or department web page
- Lead to/part of Senior Project
- Applications due Spring quarter.

# Research Experience for Undergraduates (REU)

- Usually juniors
- Paid summer research experience at other institutions
- Lead to/part of Senior Project
- Applications typically due Spring quarter. Information in the Winter.





# Senior Project

- **Don't wait!!**
- Your idea or faculty idea
- Information online ([http://www.calpoly.edu/~phys/pages/senior\\_projects.html](http://www.calpoly.edu/~phys/pages/senior_projects.html))
- Do it
  - Research and Write-up
  - Theory (Phys 461/462)
  - Experiment/computation (Phys 463 /464)
  - **You are the energy** for this project.



# Senior Project (cont.)

- When done writing
  - Submit
- Make sure advisor gives you a grade
  - If completed on time, this isn't a problem



# Graduate School

- **Research experience and higher GPA helps**
  - Think about it now, while taking classes.
- Applications typically late Dec/early Jan
  - Grades (high is good)
  - Research (grades aren't everything)
  - GRE general (online at testing center)
  - GRE physics (Fall, look up)
  - Letters of Rec from research
    - Research letters most important
    - Science/math classes okay
  - Write statement of purpose (start early)
- Apply to wide range of universities
  - High, medium, low



# Letters of Recommendation

- Provide your recommender with as much info as possible
  - Give them a CV (academic resume), copy of statement of purpose (if done)
  - Remind them what you did with them (class, research, etc.)
  - Explain your plan for each application (what subfield(s) are you interested in?, ultimate academic and career goals?)
  - Provide deadlines, addresses, etc.
- Ask early, remind them again near deadlines



# Questions?

- Ask now...
- See your advisor
- Stop by Physics office 52-D37