



# Bachelor of Science

## APPLIED PHYSICS: Technology Emphasis

**Advisement Form 2009-2010**

Name \_\_\_\_\_ ID \_\_\_\_\_

Physics Curriculum	Un.	Instit.	Course	Units	Grade	Term	Prerequisites, GE & Comments
<b>Lower Division Requirements (31 – 32 Units)</b>							
MATH 150 Calculus I	4						Prereq: Passing score on Calculus Placement Exam or MATH 105; GE: B3
MATH 151 Calculus II	4						Prereq: MATH 150
MATH 230 Logic and Mathematical Reasoning	3						GE: A3, B3
MATH 240 Linear Algebra	3						Prereq: MATH 151
MATH 250 Calculus III	3						Prereq: MATH 151 with C or better
PHYS 106 Applied Physics and Modern Society	3						GE: B1
PHYS 200 General Physics I	4						Prereq: MATH 150; GE: B1
PHYS 201 General Physics II	4						Prereq: PHYS 200; GE: B1
COMP 105 Computer Programming Introduction (or)	3						GE: B4
COMP 150 Object-Oriented Programming	4						Prereq: Programming experience; GE: B4
<b>Upper Division Requirements (46-47 Units)</b>							
<b>Major Core Courses (37 units)</b>							
MATH 350 Differential Equations and Dynamical Systems	3						Prereq: MATH 250 (may be taken concurrently)
PHYS 304 Electromagnetism	4						Prereq: PHYS 101 or 201, & MATH 151
PHYS 306 Modern Physics	3						Prereq: PHYS 101 or 201, & MATH 151
PHYS 310 Electronics	4						Prereq: PHYS 101 or 201
PHYS/PAMU 335 Physics of Music	3						GE: B1, C1, INTD
PHYS/ENGL 338 Science and Conscience	3						GE: B1, C2, INTD
PHYS/COMP/MATH 345 Digital Imaging Processing	3						Prereq: Consent of instructor; GE: B1, B4, INTD
PHYS 406 Solid State Physics	3						Prereq: PHYS 306
PHYS/BIOL/HLTH 434 Introduction to Biomedical Imaging	4						Prereq: BIOL 210 or PHYS 200; GE: B1, E, INTD
PHYS 448 Team Based Research	3						Prereq: Upper division standing; GE: B1, INTD
PHYS 499 Senior Colloquium	1						Prereq: Senior standing
Select 3 units (any combination) from the following:							
PHYS 492 Internship	3						Prereq: Upper division standing & consent of instructor; Graded or CR/NC
PHYS 494 Independent Research	1-3						Prereq: Senior standing & consent of instructor; Repeatable
PHYS 497 Directed Studies	1-3						Prereq: Senior standing & program approval; Repeatable

	Un.	Instit.	Course	Units	Grade	Term	Prerequisites, GE & Comments
<b>Electives in the Major (9-10 Units)</b> <i>Select three courses from the following:</i>							
MATH 352 Probability and Statistics	3						Prereq: MATH 151
MATH 448 Scientific Computing	3						Prereq: MATH 151 & 350 or COMP 151; GE: B3, B4, INTD
MATH 450 Partial Differential Equations and Mathematical Physics	3						Prereq: MATH 350 or consent of instructor
MATH 451 Complex Analysis	3						Prereq: MATH 240 & 250
PHYS 301 Classical Mechanics#	3						Prereq: PHYS 201 & MATH 350
PHYS 305 Thermal and Statistical Physics#	3						Prereq: PHYS 201 & MATH 350
PHYS 401 Quantum Mechanics#	3						Prereq: PHYS 306 & MATH 350
PHYS/COMP/MATH 445 Image Analysis and Pattern Recognition	3						Prereq: PHYS/COMP/MATH 345 or consent of instructor; GE: B1, B4, INTD
PHYS/BIOL 464 Medical Instrumentation	4						Prereq: PHYS/BIOL/HLTH 434
PHYS 490 Topics in Physics	3						Prereq: Upper division standing & consent of instructor
PHYS 492 Internship <i>(If not taken as a required course)</i>	3						Prereq: Upper division standing & consent of instructor; Graded or CR/NC
PHYS 494* Independent Research <i>(If not taken as a required course)</i>	1-3						Prereq: Senior standing & consent of instructor
PHYS 497* Directed Studies <i>(If not taken as a required course)</i>	1-3						Prereq: Senior standing & program approval

\*Cannot exceed a total of three units, when added to units taken within the upper division requirements

# Courses offered to students interested in taking the GRE exam for graduate school

#### Additional University Graduation Requirements

<b>9 Units Upper Division Interdisciplinary GE at CSUCI (courses numbered 330-349 or 430-449)</b>	
Course 1 (in major) <u>PHYS 335</u>	Course 2 (in major) <u>PHYS 338</u>
Course 3 _____ (outside major)	
<b>American Institutions Requirements:</b> US History _____ (Choose from HIST 270, 271, 272, 275 or 350)	State and Local Gov't _____ (Choose POLS 150)
<i>Students must receive a grade of C or better in the Language and Multicultural Requirements</i>	
<b>Language Requirement:</b> GE C3a _____ (one semester of college level language)	
<b>Multicultural Requirement:</b> GE C3b _____	
<i>Minimum total units to graduate: 120 of which 40 must be upper division. Please see catalog for a complete list of graduation requirements.</i>	
Advisor _____	Date Completed: _____
Advisor Comments: _____ _____	