BACHELOR OF SCIENCE–Physics Major Track A (Research) NAME _____
2011-2012 Old Dominion University Catalog

UIN:_____

Students earning the AS, AA, or AA&S (or university parallel) degree from a Virginia Community College automatically satisfy the lower division general education requirements. **Courses marked with * require a grade of C or better to transfer, even with the AS degree. The remaining lower division courses are automatically satisfied by the AS (including foreign language), regardless of the grade earned.** Additionally, courses in which a grade of "C-" or below were earned will not transfer. Therefore Community College degree holders may require additional credits to meet the 120 credit hour graduation minimum. **(AS=Associate degree)**

Entrance Writing Sample Placement Test: _____ **Entrance Math Placement Test: _____**

LOWER DIVISION GENERAL EDUCATION REQUIREMENTS

A. ***Skills***	grade/credit	***VCCS transfer equivalent***
Written Communication–6 hours		
ENGL 110C English Composition I	3	AS/ENG 111
ENGL 211C, 231C	3	AS/ENG 210, 115, or 131
Oral Communication–3 hours		satisfied in the major by
COMM 101R, 103R, 112R		Phys 499W
Mathematics-3 hours		
MATH 162M		satisfied in the major
Language and Culture –0-6 hours		AS/HS/TOEFL

BS students' competence must be at the 102 or 111 level.
Consult transfer guide for all equivalencies.

Information Literacy–3 hours		
CS 120G or CS 121G	3	
B. ***Ways of Knowing***		
Human Creativity--3 hours		
ARTH 121A, ARTS122A, DANC 185A, MUSC 264A, THEA 241A, COMM/THEA 270A	3	AS/ART 101, 102, 111 112, 113, 114, 115; MUS 121, 122; SPD130, 141, or 142
History--3 hours		
HIST 100H, 101H, 102H, 103H, 104H, 105H	3	HIS 101, 102, 111, 112, 121, 122, 201, 202, 203, 204, 231, 232, 251, 252, 253, or 254
Literature--3 hours		
ENGL 112L, 114L, FLET 100L	3	AS/ENG 112, 235, 237, 241, 242, 246, 267, or 268
Philosophy and Ethics–3 hours		
PHIL 110P, 120P, 140P, 230E, 250E, 303E, 344E, 345E, 441E, 442E	3	AS/PHI 100, 101, 102 211, 212, 220, REL 230, 231, or 232

Natural Science and Technology–8 hours Met in the major

Human Behavior–3 hours 3 AS
ANTR 110S, CRJS 215S, ECON 200S, ECON 201S, ECON 202S, GEOG 100S, GEOG 101S, POLS 100S, POLS 101S, POLS 102S, PSYC 201S, PSYC 203S, SOC 201S, COMM 200S, WMST 201S, FIN 210S

The Impact of Technology–3 hours 3 AS
CS300T, DNTH 440T, ENGL307T, GEOG 306T, HIST 300T, HIST 304T, HIST 389T, HIST 386T/SCI 302T, IT 360T, MUSC 335T, POLS 350T, STEM 110T, STEM 370T, WMST 390T, COMM 372T, PHIL 383T

Physics Course Requirements	grade/credit	Transfer
MATH 211Calculus I	4	
MATH 212 Calculus II	4	
MATH 312 Calculus III	4	MATH 285
MATH 307 Differential Equations	3	MATH 280
MATH 316 or 401 or 421 or 422	3	
CHEM 121N/122N Chemistry I**	4	CHM 111 or 113
CHEM 123N/124N Chemistry II **	4	CHM 112 or 114
CS 150 Intro to Programming	4	
PHYS 231N University Physics I*	4	
PHYS 232N University Physics II*	4	
PHYS 323 Modern Physics	3	
PHYS 355 Math Methods	3	
PHYS 319 Analytical Mechanics	3	
PHYS 320 Electricity & Magnetism	3	
PHYS 352 Intro. Quantum Mechanics	3	
PHYS 303 Laboratory	3	
PHYS 413 Methods of Exp. Physics	3	
PHYS 420 Computational	3	
PHYS 453 Radiation & Optics	3	
PHYS 454 Thermal Physics	3	
PHYS 456 Inter. Quantum Mech.	3	
PHYS 499W or 489W/490W Thesis	3	
Approved Physics Seminar	1	
Two courses from:		
PHYS 313, 350, 411, 415, 416, 417	3	
with at least three credits 4xx	3	

***Physics majors must earn a grade of "C" or better in PHYS 231 and PHYS 232.**
****(CHEM 137N/138N) or (CHEM 121N/122N/123N/124N)**

UPPER DIVISION GENERAL EDUCATION
Satisfied by any University approved 2nd major, minor, cluster, or two upper-division courses (6 credits) outside of and not required by the major.

120 HOURS AND A 2.0 GRADE POINT AVERAGE IN THE MAJOR, MINOR, AND OVERALL ARE NEEDED TO GRADUATE.

Additional Graduation Requirements:
Passage of Exit Writing Exam _____
Application for Graduation _____
Passage of Physics Exit Exam _____
Senior Assessment _____

PHYSICS MINOR: (12 credits at 300-400 level)

PHYS 319	3	
PHYS 320	3	
6 additional credits at 300-400 level	3	
	3	

edited: May 12, 2011