

OLD DOMINION UNIVERSITY 2008-2009 Catalog
Bachelor of Science—Physics Major/Research and Professional Tracks

Students earning the AS, AA, or AA&S 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 who satisfy lower general education may require additional credits to meet the 120 credit hour graduation minimum. A minimum overall GPA of 2.00 is required to graduate. (AS=Associate Degree)

FRESHMAN FIRST SEMESTER

	Credits/Grade	Transfer
MATH 211	Calculus I	4 _____ <u>MTH 173 or 273*</u>
PHYS 120	Seminar	1 _____
GEN ED	History Perspective I	3 _____
GEN ED	Fine Arts Perspective	3 _____
ENGL 110C	English Comp I	3 _____ <u>See Transfer Guide</u>

FRESHMEN SECOND SEMESTER

MATH 212	Calculus II	4 _____ <u>MTH 174 or 274*</u>
ENGL 111C/131C	English Comp II/Technical Writing	3 _____ <u>See Transfer Guide</u>
GEN ED	History Perspective II	3 _____ <u>See Transfer guide</u>
PHYS 231N	University Physics I (minimum grade of C required)	4 _____ <u>PHY 231 or 241*</u>

SOPHOMORE FIRST SEMESTER

MATH 307 (or MATH 280)	Differential Equations	3 _____ <u>MTH 279 or 291*</u>
PHYS 232N	University Physics II (minimum grade of C required)	4 _____ <u>PHY 232 or 242*</u>
GEN ED	Philosophy Perspective	3 _____ <u>See Transfer guide</u>
CS 150	Introduction to Programming	4 _____ <u>CSC 201, EGR 126*</u>

SOPHOMORE SECOND SEMESTER

MATH 312 (or MATH 285)	Calculus III	4 _____ <u>MTH 275 or 277*</u>
PHYS 323	Modern Physics	3 _____
GEN ED	Literature Perspective	3 _____ <u>See Transfer guide</u>
CHEM 115N	Foundations of Chemistry I	4 _____ <u>CHM 111*</u>
Elective I		3 _____

JUNIOR FIRST SEMESTER

PHYS 319	Analytical Mechanics	3 _____
CHEM 116N	Foundations of Chemistry II	4 _____ <u>CHM 112*</u>
GEN ED	Social Science Perspective I	3 _____ <u>See Transfer guide</u>
MATH 316, 401, 421, or 422		3 _____
PHYS 303	Intermediate Experimental Physics	3 _____

JUNIOR SECOND SEMESTER

PHYS 320	Electricity and Magnetism	3 _____
PHYS 352	Introduction to Quantum Mechanics	3 _____
GEN ED	Social Science Perspective II	3 _____
PHYS 413W	Methods of Experimental Physics	3 _____
UPPER GEN ED Cluster I		3 _____

Students must select one of the following tracks:

A. Research Track

SENIOR FIRST SEMESTER

PHYS 300-400	Topics Elective I*	3 _____
PHYS 404, 414, or	Computational Physics (PHYS 420)	3 _____
PHYS 453	Radiation and Optics	3 _____
PHYS 456	Intermediate Quantum Mechanics	3 _____
UPPER GEN ED Cluster II		3 _____

SENIOR SECOND SEMESTER

PHYS 400	Topics Elective II*	3 _____
PHYS 454	Thermal Physics	3 _____
UPPER GEN ED Cluster III		3 _____
PHYS 499W	Thesis (meets oral communication requirement)	3 _____
Elective I		3 _____

B. Professional Track

SENIOR FIRST SEMESTER

PHYS 300-400	Topics Elective I**	3 _____
PHYS Core Elective: 404, 414, 420, 453 or 456		3 _____
UPPER GEN ED Cluster II		3 _____
Elective II		3 _____
Elective III		3 _____

SENIOR SECOND SEMESTER

PHYS 400	Topics Elective II**	3	_____
PHYS 454	Thermal Physics	3	_____
UPPER GEN ED	Cluster III	3	_____
PHYS 499W	Thesis (meets oral communication requirement)	3	_____
Elective IV		3	_____

***Research Track** requires two topics elective courses from PHYS 313, 350, 411, 415, or 416, with at least one course at the 400-level.

****Professional Track** requires two topics elective courses from PHYS 311, 313, 332, 350, 411, 415, or 416, with at least one course at the 400-level.

Math Minor: Students wishing to complete a minor in Applied Mathematics can replace Cluster I, II, and III with just two additional math courses (including MATH 317; option not available to students with transfer credit for MATH 280 and 285) and any other university credits necessary to earn the 120 credit minimum for graduation.

Other minors: Students who wish to complete a minor in other disciplines can replace Elective I, II, III, and IV with required courses (and prerequisites) in the chosen minor.

Requirements for graduation include a minimum cumulative grade point average of 2.00 overall and in the major, 120 credit hours, passage of the Exit Examination of Writing Proficiency, and completion of Senior Assessment. Additional hours may be required to meet the foreign language requirement.