

# MATHEMATICAL PHYSICS OPTION

\* Baccalaureate Core Course (BCC)

^ Writing Intensive Course (WIC)

Option Code: 587

This option is offered within the following major(s):

- Physics - College of Science (<http://catalog.oregonstate.edu/college-departments/science/physics/physics-ba-bs-hba-hbs/>)

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Code	Title	Credits
<b>Math</b>		
MTH 251	*DIFFERENTIAL CALCULUS	4
MTH 252	INTEGRAL CALCULUS	4
MTH 253	INFINITE SERIES AND SEQUENCES	4
or MTH 306	MATRIX AND POWER SERIES METHODS	
MTH 254	VECTOR CALCULUS I	4
MTH 255	VECTOR CALCULUS II	4
MTH 256	APPLIED DIFFERENTIAL EQUATIONS	4
MTH 341	LINEAR ALGEBRA I	3
<b>Chemistry</b>		
CH 231 & CH 261	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 231	5
CH 232 & CH 262	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 232	5
CH 233 & CH 263	GENERAL CHEMISTRY and *LABORATORY FOR CHEMISTRY 233	5
<b>Physics Core</b>		
PH 211 & PH 221	*GENERAL PHYSICS WITH CALCULUS and RECITATION FOR PHYSICS 211	5
PH 212 & PH 222	*GENERAL PHYSICS WITH CALCULUS and RECITATION FOR PHYSICS 212	5
PH 213 & PH 223	*GENERAL PHYSICS WITH CALCULUS and RECITATION FOR PHYSICS 213	5
PH 315	PHYSICS OF CONTEMPORARY CHALLENGES	3
PH 335	TECHNIQUES OF THEORETICAL MECHANICS	3
PH 365 & PH 366 & PH 367	COMPUTATIONAL PHYSICS LAB and COMPUTATIONAL PHYSICS LAB and COMPUTATIONAL PHYSICS LAB	3
PH 411	ELECTRONICS	3
PH 422	PARADIGMS IN PHYSICS: STATIC FIELDS	3
PH 423	PARADIGMS IN PHYSICS: ENERGY AND ENTROPY	3
PH 424	PARADIGMS IN PHYSICS: OSCILLATIONS AND WAVES	3
PH 425	PARADIGMS IN PHYSICS: QUANTUM FUNDAMENTALS	3
PH 426	PARADIGMS IN PHYSICS: CENTRAL FORCES	3
PH 427	PARADIGMS IN PHYSICS: PERIODIC SYSTEMS	3
<b>Senior-level Physics</b>		
PH 401	RESEARCH	3
PH 403	^THESIS	3
Select two of the following:		6
PH 431	CAPSTONES IN PHYSICS: ELECTROMAGNETISM	
PH 441	CAPSTONES IN PHYSICS: THERMAL AND STATISTICAL PHYSICS	
PH 451	CAPSTONES IN PHYSICS: QUANTUM MECHANICS	
<b>Mathematical Physics Electives</b>		
Select 15 credits <sup>1</sup>		15
Total Credits		114

<sup>1</sup> 15 credits of approved upper-division courses in physics or mathematics at the 400 level or beyond, including at least one laboratory course, which form a coherent set. At least 8 of these credits must be in mathematics.