

UNDERGRADUATE MAJOR: B.A. in Physics with 7-12 Secondary Teacher Education Program 2021-2022
CREDITS REQUIRED IN MAJOR: 66

FOUNDATION/REQUIRED MAJOR COURSES (40 credits):

COURSE NUMBER	COURSE NAME	CREDIT S	PREREQUISITES
PHY 114	Introductory Physics Lab I	1	Coreq: PHY 111 or 121
PHY 116	Introductory Physics Lab II	1	Coreq: PHY 112 or 123
PHY 121	General Physics I	4	MAT 152 or concurrent registration
PHY 123	General Physics II	4	It should be taken concurrently with PHY 116, Introductory Physics Laboratory II. Prerequisites: PHY 121 or equivalent and one semester of calculus
PHY 211	Nonclassical Physics I	3	PHY 123 or PHY 112, and MAT 152.
PHY 213	Nonclassical Physics II	3	PHY 211
PHY 240	Intermediate Lab I	3	PHY 121, PHY 123, PHY 211, with PHY 261 strongly recommended.
PHY 261	Computational Physics	3	PHY 121 and prior or concurrent registration in MAT 153, or permission of instructor.
PHY 314	Statistical and Thermal Physics	3	PHY 123 and prior or concurrent enrollment in MAT 252. PHY 261 also recommended.
PHY 321	Classical Physics I	3	grade of C or higher in PHY 121 and prior or concurrent enrollment in MAT 252.
PHY 323	Classical Physics II	3	PHY 321 and MAT 252
PHY 331	Electrodynamics I	3	grade of C or higher in PHY 123 and prior or concurrent enrollment in MAT 252
PHY 333	Electrodynamics II	3	PHY 331
PHY 341	Quantum Mechanics	3	PHY 211, PHY 321, and MAT 252, or permission of instructor

Capstone Requirement can be satisfied by taking either PHY 242 Intermediate Physics Laboratory II or by completing an approved research project with a department faculty member.

Required Mathematics Courses (16 credits):

COURSE NUMBER	COURSE NAME	CREDIT S	PREREQUISITES
MAT 152	Calculus A	4	MAT 140 or appropriate test score
MAT 153	Calculus B	4	MAT 152
MAT 252	Calculus C	4	MAT 153
MAT 350	Differential Equations	4	MAT 252

Required Chemistry Courses (9 credits);

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES
CHY 113 & 114	Principles of Chemistry I lecture and Lab	4	Pre- or corequisite: EYE (or concurrent), and MAT 108 (or concurrent) or MAT 140 (or concurrent) or MAT 152 (or concurrent) or permission
CHY 115 & 116	Principles of Chemistry II Lecture and Lab	4	a grade of C or better in CHY 113

Electives (choose 1) 3 credits:

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES
PHY 251	Principles of Electronics	3	MAT 152 or instructor permission
PHY 281	Astrophysics	3	PHY 221
PHY 375	Optics	3	PHY 331

PROFESSIONAL EDUCATION PRE-INTERNSHIP REQUIREMENTS (15 credits):

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES
EDU 100	Exploring Teaching	3	none
EDU 225	Child and Adolescent Development	3	WRI1
EDU 305	Foundations of Cultural and Linguistic Diversity	3	EDU 225
EDU 222	Foundations of Language and Literacy Development	3	EDU 225
SED 235	Students with Exceptionalities in General Education	3	

PROFESSIONAL EDUCATION PRE-INTERNSHIP RECOMMENDED COURSES (6 credits):

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES
SED 300	Ethics and Youth with Exceptionalities	3	none
EDU 310	Purpose of Schooling in a Democracy	3	ENG 100 or ENG 104; and an EYE course

PROFESSIONAL EDUCATION INTERNSHIP YEAR REQUIREMENTS (21 credits):

COURSE NUMBER	COURSE NAME	CREDITS	PREREQUISITES
EDU 445	Student Teaching	6	Teacher education program, EDU 442
EDU 442	Seminar in Teaching, Learning, Assess	3	Teacher education program, Jr. Standing
EDU 501	Secondary Science Methods	3	Teacher education program, EDU 442
EDU 414	Improving Teaching in Content Areas	3	Teacher education program, EDU 442
EDU 410	Creating Positive Learning Environments	3	Teacher education program, EDU 442
EDU 546	Testing and Assessment I	3	Teacher education program, EDU 442
EDU 547	Testing and Assessment II	3	Teacher education program, EDU 546

MAJOR COURSES OVERLAPPING IN THE CORE:

CORE AREA	COURSE NUMBER	COURSE NAME	REQUIRED BY MAJOR?
QR	MAT 152	Calculus A	Yes
EISRC & INT	EDU 310	Purpose of Schooling in a Democracy	Yes
DIV	EDU 305	Foundations of Cultural and Linguistic Diversity	Yes

Program Declaration and Withdrawal

All students must formally declare their entry into a teacher education pathway by completing the Declaration and/or Dropping of Undergraduate Teacher Education Pathway Form through the registrar's office. The form is located in the forms section of the Office of Registration Services. <https://usm.maine.edu/registration-services/1forms>

Academic Requirements

The minimum academic requirements to be a student in good standing in the Secondary Teacher Education Pathway are as follows:

- A grade of B- or better in all professional education coursework.
- A grade of C or better in content courses required for the area of teacher certification.
- An overall GPA of 3.0 or better.

Failure to maintain the above requirements may result in program dismissal. Appeals may be made in writing to the Director of Educator Preparation.

Students are required to complete and show documentation of the fingerprinting process outlined by the Maine Department of Education: <http://www.maine.gov/doe/cert/fingerprinting>.

Recommendation for Certification

Graduates who successfully complete all the Secondary Teacher Education Pathway requirements are eligible for recommendation for teacher certification in Maine. In order to be recommended for

certification, students must complete the Recommendation for Certification form. Students who fail to meet the academic or professional requirements for the Secondary Teacher Education Pathway or choose not to pursue teacher certification may withdraw from the pathway and graduate with their major.

NOTE--Course requirements are subject to change based upon changes in teacher certification regulation.

CORE CURRICULUM CODES

WRI 1 – Writing, Reading, & Inquiry 1

WRI 2 – Writing, Reading, & Inquiry 2

WRI 3 – Writing, Reading, & Inquiry 3

QR – Quantitative Reasoning

CE – Creative Expression

SCA – Socio-cultural Analysis

CI – Cultural Interpretation

SE – Science Exploration

EISRC – Ethical Inquiry, Social Responsibility, & Citizenship

DIV – Diversity

INT – International

EL – Engaged Learning

CAP – Capstone

Revised 3.15.21