Name:_____ **ID:** _____

SECONDARY EDUCATION (LIFE SCIENCES)

(120 credits are required for graduation)

GENERAL EDUCATION REQUIREMENTS:

	Course	Semester	Grade
A. SCIENCE (minimum 41 credits)	*For specific science requirements, see course sequence on page 2.*		
B. MATHEMATICS (6-8 credits)			
Statistics	STS 232 or equiv.	_____	_____
Elective Math	_____	_____	_____
C. HUMAN VALUES AND SOCIAL CONTEXT (18 credits)			
1. Western Cultural Tradition (3)	_____	_____	_____
2. Social Contexts and Institutions (3)	PSY 100	_____	_____
3. Cultural Diversity and International Perspectives (3)	EHD 202	_____	_____
4. Population and the Environment (3)	_____	_____	_____
5. Artistic and Creative Expression (3)	_____	_____	_____
6. Elective to complete HVSC (3)	_____	_____	_____
D. DEMONSTRATED WRITING COMPETENCY (9 credits)			
College Composition (3) (grade of C or above)	ENG 101	_____	_____
1 writing intensive course within major (3)	EHD 202	_____	_____
1 writing intensive course (3)	ESC 452	_____	_____
*(*Not eligible to take ESC 452 until <u>after</u> you have passed Teacher Candidacy)*			
E. CAPSTONE EXPERIENCE (12 credits)			
Internship - Student Teaching (12)	EHD 491	_____	_____

PROFESSIONAL EDUCATION – PRIOR TO TEACHER CANDIDACY

In order to be admitted to Teacher Candidacy and upper level courses in education, students must complete the following prerequisite courses with a minimum grade of B-, and achieve an overall cumulative GPA of 2.75. They must also fulfill all portfolio requirements, including passing Praxis I and documentation of the field experience (see eFolio guidelines).

Art and Science of Teaching (3)	EHD 101	_____	_____
Education in a Multicultural Society (3)	EHD 202	_____	_____
Educational Psychology (3)	EHD 203	_____	_____
Psychology of Adolescence (3) **<u>OR</u>**	PSY 224	_____	_____
Adolescence (3)	CHF 433	_____	_____
Computers in Education (3)	EDT 400	_____	_____

PRAXIS Core Exam: READING_____ **WRITING**_____ **MATH**_____

Must be taken and passed before applying for teacher candidacy. Passing scores - Core Academic Skills for Educators: Reading 156; Writing 162; Math 150 or a composite score of 468 with all sections within 3 points of passing.

Note: Students must earn a grade of "B-" or better in all professional education courses.

Pre-Education Semester Courses (upon admission to Teacher Candidacy)

Teaching and Assessing for Student Learning (3)	EHD 204	_____	_____
Adapted Instruction for Students with Disabilities (3)	SED 302	_____	_____
Prevention and Intervention (3)	EHD 301	_____	_____
Literacy Across the Curriculum (3)	EHD 421	_____	_____

PRAXIS II Exam: _____
Must be taken and passed in discipline of study prior to applying for Student Teaching EHD 491.

Education Semester

Teaching Science in the Secondary School (3) *(Fall only)*	ESC 452	_____	_____
Field Observation (3) *(Fall only)*	EHD 400	_____	_____

(Must apply semester prior to observation. Fingerprints are required at time of application.)

Student Teaching Internship *(Student must have a cumulative GPA of 2.5 in order to be eligible for the Student Teaching Internship.)*

Internship (12)	EHD 491	_____	_____
Seminar for Interns (3)	EHD 498	_____	_____
Alternate Capstone Experience (3-6)	EHD 493	_____	_____

(Taken only if not student teaching.)

SCIENCE SPECIALIZATIONS: LIFE SCIENCES (minimum: 50 credits)

All students in secondary life sciences education must complete the General Requirements, and then select one concentration (general biology, natural history and ecology, or aquatic and marine ecology). A cumulative GPA of at least 2.5 in one's science specialization (50 credits) is necessary to graduate.

Topic	Course	Credit	F/Sp	Seminar	Gr	Recommended Courses/Prerequisites
Mathematics	STS 232	3	F/Sp			Pre: 2 year HS math or MAT 111
						MAT 122, MAT 126
Intro Chemistry	CHY 121	3	F/Sp			Co: CHY 123, MAT 122
	CHY 123	1	F/Sp			Co: CHY 121
	CHY 122	3	Sp			Pre: CHY 121; Co: CHY 124
	CHY 124	1	Sp			Pre: CHY 121 and 123; Co: CHY 122
General Biology						Rec: BIO 100, BIO 200, a higher level biology course
Organic Chemistry						Rec: CHY 251, BMB 221 (lab option)
Anatomy & Physiology						Rec: BIO 208, 377, 452; BMB 430
Botany						Rec: BIO 310, 342, 452; SMS 473
Ecology						Rec: BIO 319, SMS 300, FES 407
Genetics & Evaluation						Rec: BIO 465, 462; BMB 400
Credit Subtotal =				**Typically 38+ credits**		

OPTION 1: GENERAL BIOLOGY CONCENTRATION:

Topic	Course	Credit	F/Sp	Seminar	Gr	Recommended Courses/Prerequisites
Intro to Physics						Rec: PHY 105, PHY 111, PHY 121
Microbiology	BMB 300	3	F/Sp			(BMB 305 lab is optional.)
Biochemistry	BMB 322	3	Sp			CHY 251 or BMB 221 (labs optional)
Field Biology						Rec: ESC 444; BIO 205
Elective (Science)						Rec: SMS 201, 300; BMB 410
Credit Subtotal =	**Must bring Science Spec total up to at least 50 credits.**					

OPTION 2: NATURAL HISTORY & ECOLOGY CONCENTRATION:

Topic	Course	Credit	F/Sp	Seminar	Gr	Recommended Courses/Prerequisites
Ecosystems						Rec: BIO 468, BIO 463
Biodiversity						Rec: BIO 326, 420, 455; BMB 410
Field Ecology/ Natural History						Rec: BIO 205, ESC 444
Environmental Geology						Rec: ERS 102
Elective (Science)						Marine Science, BMB, Forestry, Etc.
Credit Subtotal =	**Must bring Science Spec total up to at least 50 credits.**					

OPTION 3: AQUATIC & MARINE ECOLOGY CONCENTRATION:

Topic	Course	Credit	F/Sp	Seminar	Gr	Recommended Courses/Prerequisites
Aquatic Biology						Rec: SMS 201, BIO 468, BIO 463
Marine Ecology						Rec: SMS 300
Biology – Verts						Rec: BIO 329, SMS 422, SMS 322
Biology – Inverts	BIO 353	4	F			Pre: BIO 200
Field Marine Biology						Rec: SMS 306; SMS 475, BIO 468, BIO 463
Elective (Science)						Oceanography, Marine Geology, etc.
Credit Subtotal =	**Must bring Science Spec total up to at least 50 credits.**					

Total Credits for Science Specialization (minimum 50): ___

General Electives

_____ _____ _____

_____ _____ _____

_____ _____ _____

SCHEDULING INFORMATION FOR COURSES RECOMMENDED

BIOCHEMISTRY, MICROBIOLOGY, AND MOLECULAR BIOLOGY (BMB)

Course	Title	Cr	F/Sp	Prerequisites
BMB 221	Organic Chemistry	3	F	BMB 207 or CHY 121/123
BMB 400	Molecular Genetics	3	F	BMB 280, BMB 322
BMB 410	Diversity of Microorganisms	3		BMB 300 & BMB 305
BMB 420	Pathogenic Microbiology & Serology	3	Sp	BMB 300, BMB 305
BMB 430	Bacterial Physiology	3		BMB 300 and BMB 322
BMB 455	Virology	3	F	BMB 300

BIOLOGY (BIO)

Course	Title	Cr	F/Sp	Prerequisites
BIO 100	Basic Biology	4	F	-----
BIO 200	Biology of Organisms	4	Sp	BIO 100 or permission
BIO 205	Field Natural History of Maine	4	F	-----
BIO 208	Anatomy & Physiology	4	Sp	BIO 100
BIO 310	Plant Biology	4	Sp	BIO 100 or PSE 100 or FES 100 or equivalent
BIO 319	General Ecology	3	Sp	1 year college chemistry and 1 year college biology science
BIO 326	General Entomology	4	F	BIO 100
BIO 329	Vertebrate Biology	3	F	BIO 200
BIO 342	Plants in Our World	3	F	BIO 200 or permission
BIO 350	Concepts and Applications of Genetics	3	Sp	BIO 100 or junior standing
BIO 353	Invertebrate Zoology	4	F	BIO 200
BIO 377	Animal Physiology	3	F	BIO 200 or BIO 208 and 1 year chemistry
BIO 452	Plant Physiology	3	F	BIO 100 and 1 year chemistry
BIO 462	Principles of Genetics	3	F	BIO 100 and sophomore standing
BIO 463	River Ecology	4	F	BIO 319 or WLE 200 or SMS 300 or permission
BIO 465	Evolution	3	Sp	BIO 100
BIO 468	Lake Ecology	3	Sp	BIO 200 and CHY 122 and CHY 124 or BMB 208 and BMB 210

CHEMISTRY (CHY)

Course	Title	Cr	F/Sp	Prerequisites
CHY 251	Organic Chemistry I	3	F	Pre: CHY 122

FOREST ECOSYSTEM SCIENCE (FES)

Course	Title	Cr	F/Sp	Prerequisites
FES 407	Forest Ecology	3	F	FTY 107 or BIO 464 or permission

MARINE SCIENCE (SMS)

Course	Title	Cr	F/Sp	Prerequisites

SMS 201	Biology of Marine Organisms	3	Sp	BIO 100 and SMS 100
SMS 300	Marine Ecology	3	F	BIO 200 (Not open to students who have taken BIO 319)
SMS 322	Biology of Marine Vertebrates	3		BIO 200
SMS 422	Biology of Fishes	3	F	BIO 200
SMS 473	Biology of Algae	4		BIO 100 and BIO 200 or permission

MATHEMATICS (MAT)

Course	Title	Cr	F/Sp	Prerequisites
MAT 122	Pre-Calculus	4	F/Sp	Department qual exam
MAT 126	Calculus I	4	F/Sp	C in MAT 122 or department qual exam