

CURRICULUM AND INSTRUCTION UNDERGRADUATE CERTIFICATE

Banner Code: E1-CERB-CRIN

Academic Advising

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Available Concentrations

Concentration in Secondary Education – Biology (6-12)

This 27-credit concentration is available only to students pursuing a BA or BS in Biology. Students who complete both the BA or BS in Biology and this concentration will be considered *Virginia state-approved educator preparation program completers* and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) Biology.

Concentration in Secondary Education – Chemistry (6-12)

This 27-credit concentration is available only to students pursuing a BA or BS in Chemistry. Students who complete both the BA or BS in Chemistry and this concentration will be considered *Virginia state-approved educator preparation program completers* and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) Chemistry.

Concentration in Secondary Education – Earth Science (6-12)

This 27 to 34 credit concentration is available only to students pursuing a BS in Earth Science. Students who complete both the BS in Earth Science and this concentration will be considered *Virginia state-approved educator preparation program completers* and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) Earth Science.

Concentration in Secondary Education – English (6-12)

This 38-credit concentration is available only to students pursuing a BA in English. Students who complete both the BA in English and this concentration will be considered *Virginia state-approved educator preparation program completers* and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) English.

Concentration in Secondary Education – Mathematics (6-12)

This 38-credit concentration is available only to students pursuing a BA or BS in Mathematics. Students who complete both the BA or BS in Mathematics and this concentration will be considered *Virginia state-approved educator preparation program completers* and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) Mathematics.

Concentration in Secondary Education – Physics (6-12)

This 26-credit concentration is available only to students pursuing a BS in Physics. Students who complete both the BS in Physics and this concentration will be considered *Virginia state-approved educator*

preparation program completers and will be eligible for recommendation for an initial VA teaching license in Secondary Education (6-12) Physics.

Admissions & Policies

Admissions

Students applying for this undergraduate certificate as a secondary program must have satisfied the following requirements:

- a minimum cumulative GPA of 3.00
- passing scores on the Virginia Department of Education (VDOE) prescribed entry assessment
- an official College of Education and Human Development review of discipline-specific content competencies coursework (note: a minimum grade of C (2.00) must have been attained in such coursework completed at Mason).

See website (<https://cehd.gmu.edu/teacher/think-you-want-to-be-a-teacher/>) for more information on the admissions process.

Prior to application for internship, students are required to complete all discipline-specific content competency (<https://cehd.gmu.edu/endorse>) requirements, pass licensure assessments, and have earned a grade of B (3.00) or better in all licensure coursework.

Requirements

Certificate Requirements

Total credits: 26-38

This certificate may be pursued on a full-or part-time basis.

Students pursuing this graduate certificate may choose from any of the following concentrations:

Concentration in Secondary Education – Biology (6-12) (SEEB)

Total credits: 27

Discipline-Specific Content Competencies Coursework

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of the major either for the BA or BS in Biology.

Code	Title	Credits
Human Anatomy/Physiology		
BIOL 430	Advanced Human Anatomy and Physiology I	4
or BIOL 431	Advanced Human Anatomy and Physiology II	
Total Credits		4

Teacher Licensure Coursework

Code	Title	Credits
EDCI 473	Teaching Science in the Secondary School	3
EDCI 483	Advanced Methods of Teaching Science in Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3
Total Credits		23

Concentration in Secondary Education – Chemistry (6-12) (SEEC)

Total credits: 27

Discipline-Specific Content Competencies Coursework

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of the major either for the BA or BS in Chemistry.

Code	Title	Credits
Inorganic Chemistry		
Select 4 credits from the following:		4
CHEM 441	Properties and Bonding of Inorganic Compounds	
CHEM 445	Inorganic Preparations and Techniques	
CHEM 446	Bioinorganic Chemistry	
CHEM 467	The Chemistry of Enzyme-Catalyzed Reactions	
Total Credits		4

Teacher Licensure Coursework

Code	Title	Credits
EDCI 473	Teaching Science in the Secondary School	3
EDCI 483	Advanced Methods of Teaching Science in Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3
Total Credits		23

Concentration in Secondary Education – Earth Science (6-12) (SEES)

Total credits: 27-34

Discipline-Specific Content Competencies Coursework for BS in Earth Sciences students

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of

the major, with a total of 32 credits from the four fields of Geology, Astronomy, Oceanography, and Meteorology.

Code	Title	Credits
Astronomy		
Select four credits from the following:		4
ASTR 103	Astronomy (Mason Core) ¹	
ASTR 111	Introductory Astronomy: The Solar System (Mason Core)	
ASTR 112	Introductory Astronomy Lab: The Solar System (Mason Core)	
ASTR 113	Introductory Astronomy: Stars, Galaxies, and the Universe (Mason Core)	
ASTR 114	Introductory Astronomy Lab: Stars, Galaxies, and the Universe (Mason Core)	
ASTR 115	Finding New Worlds (Mason Core)	
Total Credits		4

¹ This course must also be paired with either of the following labs: ASTR 112 Introductory Astronomy Lab: The Solar System (Mason Core) or ASTR 114 Introductory Astronomy Lab: Stars, Galaxies, and the Universe (Mason Core).

Discipline-Specific Content Competencies Coursework for BA in Geology students

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of the major, with a total of 32 credits from the four fields of Geology, Astronomy, Oceanography, and Meteorology.

Code	Title	Credits
GEOL 309	Introduction to Oceanography	3
Meteorology/Climatology		
Select three to four credits from the following:		3-4
CLIM 111 & CLIM 112	Introduction to the Fundamentals of Atmospheric Science (Mason Core) and Introduction to the Fundamentals of Atmospheric Science Lab (Mason Core)	
GGG 309	Meteorology and Climate	
Astronomy		
Select three to four credits from the following:		3-4
ASTR 111 & ASTR 112	Introductory Astronomy: The Solar System (Mason Core) and Introductory Astronomy Lab: The Solar System (Mason Core)	
ASTR 113 & ASTR 114	Introductory Astronomy: Stars, Galaxies, and the Universe (Mason Core) and Introductory Astronomy Lab: Stars, Galaxies, and the Universe (Mason Core)	
ASTR 115	Finding New Worlds (Mason Core)	
ASTR 103	Astronomy (Mason Core)	
Total Credits		9-11

Teacher Licensure Coursework

Code	Title	Credits
EDCI 473	Teaching Science in the Secondary School	3

EDCI 483	Advanced Methods of Teaching Science in Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3
Total Credits		23

Concentration in Secondary Education – English (6-12) (SEEN)

Total credits: 38

Discipline-Specific Content Competencies Coursework

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of the English major.

Literature

Code	Title	Credits
Select one American literature course from the following:		3
ENGH 315	Folklore and Folklife	
ENGH 340	Early American Literature	
ENGH 341	Literature of the American Renaissance	
ENGH 343	Development of the American Novel to 1914	
ENGH 344	Development of the American Novel since 1914	
ENGH 345	American Drama of the 20th Century	
ENGH 346	American Poetry of the 20th Century	
ENGH 348	Beginnings of African American Literature Through 1865	
ENGH 349	African American Literature: Reconstruction to 1903	
ENGH 350	African American Literature Through 1946	
ENGH 351	Contemporary African American Literature	
ENGH 355	Recent American Fiction	
ENGH 356	Recent American Poetry	
ENGH 442	Topics: American Literary Periods	
Select one British literature course from the following:		3
ENGH 320	Literature of the Middle Ages	
ENGH 321	English Poetry and Prose of the 16th Century	
ENGH 322	Shakespeare	
ENGH 323	Shakespeare: Special Topics	
ENGH 324	English Renaissance Drama	
ENGH 325	English Poetry and Prose of the 17th Century	
ENGH 330	Augustan Age: 1660-1745	
ENGH 331	Age of Sensibility: 1745-1800	
ENGH 332	Restoration and 18th Century Drama	
ENGH 333	British Novel of the 18th Century	
ENGH 334	British Poetry of the Romantic Period	

ENGH 335	Prose and Poetry of the Victorian Period	
ENGH 336	British Novel of the 19th Century	
ENGH 337	British Poetry after 1900	
ENGH 338	British Novel after 1900	
ENGH 339	British and Irish Drama after 1900	
ENGH 421	Topics in Medieval and Renaissance Literature	
ENGH 422	Chaucer	
ENGH 431	Topics: British Literary Periods	
Select one world literature course from the following:		3
ENGH 360	Continental Fiction, 1770-1880	
ENGH 361	Continental Fiction, 1880-1950	
ENGH 362	Global Voices (Mason Core)	
ENGH 366	The Idea of a World Literature (Mason Core)	
ENGH 367	World Literatures in English	
Total Credits		9

Language

Code	Title	Credits
Select one American literature course from the following:		3
LING 306	General Linguistics (Mason Core)	3
LING 307	English Grammar	3
or ENGH 307	English Grammar	
Total Credits		6

Teacher Licensure Coursework

Code	Title	Credits
EDCI 469	Teaching English in Secondary School	3
EDCI 479	Advanced Methods of Teaching English in the Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3
Total Credits		23

Concentration in Secondary Education – Mathematics (6-12) (SEEM)

Total credits: 38

Discipline-Specific Content Competencies Mathematics Coursework

All other discipline-specific content competencies coursework should be satisfied with the core requirements of the BA or BS in Mathematics, with the exception of Discrete Math for the BS degree.

Code	Title	Credits
Abstract Algebra		
MATH 321	Abstract Algebra	3
Calculus		
MATH 315	Advanced Calculus I	3
or MATH 316	Advanced Calculus II	
Discrete Mathematics		

MATH 125	Discrete Mathematics I (Mason Core)	3
or MATH 325	Discrete Mathematics II	

Euclidean and Non-Euclidean Geometry

MATH 302	Foundations of Geometry	3
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Probability or Statistics

Select one from the following: 3

MATH 351	Probability	
MATH 352	Statistics	
MATH 453	Advanced Mathematical Statistics in Actuarial Sciences	
STAT 250	Introductory Statistics I (Mason Core)	
STAT 350	Introductory Statistics II	

Total Credits 15

Teacher Licensure Coursework

Code	Title	Credits
EDCI 372	Teaching Mathematics in the Secondary School	3
EDCI 472	Advanced Methods for Teaching Mathematics in the Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3

Total Credits 23

Concentration in Secondary Education – Physics (6-12) (SEEP)

Total credits: 26

Discipline-Specific Content Competencies Coursework

Coursework is additional to discipline-specific content competencies coursework satisfied with the core requirements of the major.

Code	Title	Credits
Three credits of		3
PHYS 390	Topics in Physics	

Total Credits 3

Teacher Licensure Coursework

Code	Title	Credits
EDCI 473	Teaching Science in the Secondary School	3
EDCI 483	Advanced Methods of Teaching Science in Secondary School	3
EDCI 490	Student Teaching in Education	6
EDCI 491	Internship Seminar in Secondary Training	2
EDRD 419	Literacy in the Content Areas	3
EDUC 372	Human Development, Learning, and Teaching (Mason Core)	3
EDUC 422	Foundations of Secondary Education	3

Total Credits 23