

DEPARTMENT OF SCIENCE AND MATH

Dr. David J. O'Dell, Department Chair

Professors: D. O'Dell, S. Sawyer

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The Department of Science and Mathematics houses a wide variety of programs. In addition to the Teacher Education programs many students choose to follow a pre-professional track. They major in biology or chemistry (or both) while preparing for professional schools. Pre-professional training is available in the following areas:

Medicine	Pharmacy	Dentistry
Veterinary Medicine	Physician's Assistant	Optometry
Physical Therapy	Psychiatry	Medical Technology
Radiology		

After graduation, a wide variety of employment opportunities exists. In addition to teaching, graduates are employed as nurses, pharmacists, or lab technicians. They are employed at such places as the Division of Natural Resources, the Department of Environmental Protection, and the State Police Forensics lab. Other students have gone on to graduate school to pursue advanced degrees in biology, chemistry, and wildlife biology.

Science and Math students can participate in an array of student clubs and organizations, including Chi Beta Phi, the Science and Math Honorary Society, and the Biochemistry club. Students have worked on community service events, helped host national meetings of Chi Beta Phi, and made presentations at the statewide meetings of West Virginia Academy of Sciences and national meetings of the American Chemical Society. A wide variety of extra-curricular activities also are available for student participation.

For additional information about the Department of Science and Mathematics, its programs, faculty, and organizations call (304) 462-6310.

Degree Programs

Bachelor of Arts:

- Chemistry
- Mathematics

Bachelor of Science:

- Biology

Bachelor of Arts in Education:

- Biology (9-Adult)
- Chemistry (9-Adult)
- General Science (5-Adult) or General Science (5-9)
- Mathematics (5-Adult) or Mathematics (5-9)

Minors:

- Chemistry
- Mathematics

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Glennville State University has partnered with Marshall University Graduate Schools for a 3 + 4 Doctoral Degree in Pharmacology (PharmD). Information regarding this degree is listed in the Graduate Program Partnership section of the catalog.

PRE-PROFESSIONAL PROGRAMS AND HEALTH-RELATED PROFESSIONS

Many health-related professions require degrees from professional schools after completing an undergraduate degree. These professional schools have specific admission requirements and students interested in obtaining one of these degrees should begin planning their undergraduate curriculum as early as possible. Any student interested in pursuing a career in one of these areas should contact the health-professions advisor. Students may choose to declare BS Biology or BA Chemistry as their degree program and should work closely with their academic advisor to determine which degree program will be better suited to their pre-professional goals.

I. Curriculum for Medical, Dental, and Veterinary Professions

A science degree is recommended for students planning careers in medicine, dentistry, or veterinary medicine. It is possible to gain admittance into any of these programs with a non-science major, but it is usually more difficult as a student will be taking the science requirements necessary for admittance into these programs in addition to other requirements for the major. The basic science requirements for admission into medical, dental, or veterinary medical programs are similar. In addition to coursework, most programs require experience in the profession. Some programs have a specific number of hours and types of experience that an applicant must have, thus early planning is critical.

All programs require the applicant take an entrance examination that will test the applicants knowledge of various fields of science. The minimum entrance requirements for the programs should be completed before taking these exams. Students applying to medical school must take the Medical University Admission Test (MCAT), which is given January-September. The Dental Admission Test (DAT) is required for students applying to dental school; this exam is given year round. Students applying to veterinary school must take either the General Record Examination (GRE) or the MCAT, depending on the requirement of the school; the GRE is offered year round.

Basic Requirements for Medical School

BIOL 120, 121 Principles of Biology I and II	8 hours
CHEM 101, 102 General Chemistry I and II.....	8 hours
CHEM 301, 302 Organic Chemistry I and II	8 hours
CHEM 380 Biochemistry I.....	4 hours
ENGL 101, 102 Critical Reading and Writing I and II	6 hours
MATH 115 College Algebra	3 hours
PHYS 201, 202 General Physics I and II	8 hours
SOCIAL SCIENCE/BEHAVIOR	3-9 hours
TOTAL.....	48-54 hours

Some schools may require additional courses in English and Mathematics.

Basic Requirements for Dental and Veterinary School

BIOL 120, 121 Principles of Biology I and II	8 hours
CHEM 101, 102 General Chemistry I and II.....	8 hours
CHEM 301, 302 Organic Chemistry I and II	8 hours
ENGL 101, 102 Critical Reading and Writing I and II	6 hours
MATH 115 College Algebra	3 hours
PHYS 201, 201 General Physics I and II	8 hours
HISTORY.....	3-6 hours
TOTAL.....	44-47 hours

Some schools may require additional courses in English and Mathematics.

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Recommended courses for Medical, Dental, and Veterinary School

BIOL 309 and BIOL 310 Human Anatomy and Physiology I and II	8 hours
BIOL 335 Cell Physiology	4 hours
BIOL 361 Microbiology	4 hours
BIOL 420 Neurobiology.....	3 hours
BIOL 456 Genetics.....	4 hours
CHEM 380 and CHEM 381 Biochemistry I and II	8 hours
MATH 256 Probability and Statistics.....	3 hours

A student should plan on taking as many of the recommended courses as feasible; it is not necessary to take all of them.

II. Curriculum for Pharmacy

Preparation for a career in pharmacy requires completion of 67-75 credit hours (depending on the program) and an undergraduate degree is not required. The Pharmacy College Admission test (PCAT) is required of all applicants and can be taken in July, September and January. Glenville State University has partnered with Marshall University Graduate Schools for a 3 + 4 Doctoral Degree in Pharmacology (PharmD). Information regarding this degree is listed in the Graduate Program Partnership section of the catalog.

General Course Requirements

BIOL 120, 121 Principles of Biology I and II	8 hours
BIOL 309, 310 Human Anatomy and Physiology I and II *	8 hours
BIOL 361 Microbiology	4 hours
CART 101 Introduction to Public Speaking.....	3 hours
CHEM 101, 102 General Chemistry I and II.....	8 hours
CHEM 301, 302 Organic Chemistry I and II	8 hours
ECON 201 Principles of Microeconomics	3 hours
ENGL 101, 102 Critical Reading and Writing I and II	6 hours
HISTORY	3 hours
MATH 115 College Algebra	3 hours
MATH 120 Precalculus	4 hours
MATH 201 Calculus I.....	4 hours
MATH 256 Probability and Statistics I	3 hours
PHYS 201, 202 General Physics I and II	8 hours
PSYCHOLOGY	3 hours
TOTAL.....	67-75 hours

** These courses are required by some, but not all programs.*

III. Curriculum for Physical Therapy

The curriculum for admission into physical therapy programs varies between schools. The courses listed below fulfill the requirements of many programs, but not all. Most schools require that applicants have a four-year degree. In addition to coursework, most physical therapy programs require that an applicant has observed a physical therapy practice and some programs require a certain number of hours and observation of more than one practice. A student interested in a career in physical therapy must begin planning early to meet the admission requirements. Physical therapy programs require that applicants take the GRE.

General Course Requirements

BIOL 120, 121 Principles of Biology I and II	8 hours
BIOL 309, 310 Human Anatomy and Physiology I and II	8 hours
CHEM 101, 102 General Chemistry I and II.....	8 hours
ENGL 101, 102 Critical Reading and Writing I and II	6 hours
HLTH 107 Introduction to Medical Terminology *	1 hour
MATH 115 College Algebra	3 hours

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MATH 256 Probability and Statistics I	3 hours
PHYS 201, 202 General Physics I and II	8 hours
PSYC 201 General Psychology	3 hours
PSYC 250 Lifespan Development #.....	3 hours
TOTAL.....	31 hours

* Some programs require 3 hours of medical terminology

Some programs require a different upper-level psychology course

IV. Occupational Therapy

General course requirements in many physical therapy programs:

BIOL 120, 121 Principles of Biology I and II	8 hours
BIOL 309, 310 Human Anatomy and Physiology I and II	8 hours
HLTH 107 Introduction to Medical Terminology	1-3 hours
MATH 256 Probability and Statistics I	3 hours
PSYC 201 General Psychology	3 hours
PSYC 250 Lifespan Development.....	3 hours
PSYC 310 Abnormal Psychology	3 hours
PSYC 342 Multicultural Psychology	3 hours
PSYC 420 Theories of Personality	3 hours
Upper level/science writing	3 hours
TOTAL.....	34-36 hours

Most PT programs require observation hours at one, and often two, PT practices. Glenville State University's Practicum course, EXSC/HLTH 493, provides the student with 6 credit hours of observation.

V. Curriculum for Physician Assistant

Students interested in becoming a Physician Assistant (PA) must complete a Bachelor's Degree. The course requirements for admission into a PA program vary by school, but have some overlap. Physician Assistant programs require that applicants take the GRE.

General Course Requirements

BIOL 120, 121 Principles of Biology I and II	8 hours
BIOL 309, 310 Human Anatomy and Physiology I and II	8 hours
BIOL 361 Microbiology	4 hours
BIOLOGY (UPPER LEVEL)	4-8 hours
CHEM 101, 102 General Chemistry I and II.....	8 hours
CHEM 301 Organic Chemistry I.....	4 hours
CHEM 380 Biochemistry I.....	4 hours
MATH 256 Probability and Statistics I	3 hours
PHYS 201, 202 General Physics I and II	8 hours
PSYCHOLOGY	3-6 hours
TOTAL.....	54-61 hours

VI. Curriculum for Wildlife Biology

Students interested in a career in wildlife biology will be well-prepared by majoring in biology. Depending on career aspirations in wildlife biology, courses from the Wildlife Management major offered by the Department of Land Resources at the university may also be possible. Students interested in wildlife biology will work with their advisor to create the best plan of study for their career aspirations.

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BACHELOR OF SCIENCE BIOLOGY

GSU 100 The First Year Experience **0 hour**

All degree seeking students are required to take GSU 100 during their first semester.

General Education Requirements **30 hours**

Students must complete BIOL 120 and MATH 115 as part of the General Education requirements.

Biology Major **70 hours**

BIOL	120	Principles of Biology I	
BIOL	121	Principles of Biology II	4
BIOL	193	Scientific Writing	1
BIOL	293	Experimental Design	1
BIOL	456	Genetics	4
BIOL	493	Senior Seminar	1
BIOL	497	Internship II (OR)	
BIOL	499	Individual Research Problems	3
CHEM	101	General Chemistry I	4
CHEM	102	General Chemistry II	4
CHEM	301	Organic Chemistry I	4
MATH	115	College Algebra	
MATH	120	Precalculus (OR)	
MATH	125	College Trigonometry	3-4
MATH	256	Probability and Statistics I	3
PHYS	201	General Physics I	4
PHYS	202	General Physics II	4
BIOL	Electives		30

Students are required to complete at least one course from each of the following categories:

Organismal Biology (select at least one)

BIOL	305	General Botany	4
BIOL	314	Zoology	4
BIOL	351	Flora of West Virginia	3
BIOL	361	Microbiology	4
WLMT	404	Mammalogy	4

*WLMT 404 will not count for the one required course in this category. If a student takes WLMT 404, they must select at least two from this category.

Ecology/Evolution (select at least one)

BIOL	371	Evolution	4
BIOL	400	Ecology and Field Biology	4

Cellular/Physiology (select at least one)

BIOL	335	Cell Physiology	4
BIOL	420	Neurobiology	3
BIOL	435	Developmental Biology	4
BIOL	460	Physiological Ecology	4
CHEM	380	Biochemistry I	4
CHEM	381	Biochemistry II	4

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Applied Biology (select at least one)

BIOL	309	Human Anatomy and Physiology I	4
BIOL	310	Human Anatomy and Physiology II	4
BIOL	425	Bioethics	2
BIOL	470	Conservation Biology	4
NRMT	201	Forest Ecology	3

General Electives **19 hours**

General electives should be selected with consultation with your advisor to determine the best electives to help you toward a career and/or professional goal.

Total minimum hours required for degree **120 hours**

Gateway Assessment - BIOL 293

Capstone Assessment - BIOL 493

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Suggested for a Career in:

Ecology and Conservation

BIOL	305	Botany
BIOL	314	Zoology
BIOL	351	Flora of West Virginia
BIOL	371	Evolution
BIOL	400	Ecology and Field Biology
BIOL	460	Physiological Ecology
BIOL	470	Conservation Biology
NRMT	201	Forest Ecology

Pre-Professional (Pre-Med, Pre-Dental, Pre-Physician Assistant, Pre-Veterinarian)

BIOL	309	Anatomy and Physiology I
BIOL	314	Zoology
BIOL	335	Cell Physiology
BIOL	361	Microbiology
BIOL	371	Evolution
BIOL	420	Neurobiology
BIOL	425	Bioethics
BIOL	435	Developmental Biology
CHEM	302	Organic Chemistry II
CHEM	380	Biochemistry I
CHEM	381	Biochemistry II

Wildlife Biology

Required courses: Completion of these courses will allow eligibility to apply for an Associate Certificate in Wildlife Biology from the Wildlife Society.

BIOL	305	Botany
BIOL	314	Zoology
BIOL	351	Flora of West Virginia
BIOL	371	Evolution
BIOL	400	Ecology and Field Biology
BIOL	460	Physiological Ecology
BIOL	470	Conservation Biology
ENVR	393	Environmental Compliance
PSYC	201	General Psychology or
WLMT	301	Wildlife Law and Policy
WLMT	302	Wildlife Habitat Management
WLMT	404	Mammalogy
WLMT	493	Wildlife Techniques

Other Biology Careers – talk to your advisor about the best courses for you.

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BS - BIOLOGY SUGGESTED PLAN OF STUDY

FIRST YEAR

BIOL 120 (OR) BIOL 121	4	BIOL 120 (OR) BIOL 121	4
BIOL 193.....	1	CART 101 (or other Gen Ed)	3
CHEM 101	4	CHEM 102.....	4
ENGL 101	3	ENGL 102	3
GSU 100.....	0	Total Hours - Spring Semester	14
MATH 115	3		
Total Hours - Fall Semester	15		

SECOND YEAR

BIOL 293.....	1	ART 200 (OR) MUSC 200.....	2
CHEM 301	4	BIOLOGY ELECTIVE	7
HIST 201, 202, 207, 208 (OR) POSC 203	3	ECON 201, 202, GEOG 203, PSYC 201, (OR) SOCS 225.....	3
MATH 120 (OR) 125	3-4	MATH 256	3
BIOLOGY ELECTIVE	4	Total Hours - Spring Semester	15
Total Hours - Fall Semester	15-16		

THIRD YEAR

HIST 201, 202, 207, 208 (OR) POSC 203	3	BIOL 456 (OR) BIOLOGY ELECTIVE.....	4
PHYS 201.....	4	BIOL 497 (OR) 499.....	1
GENERAL ELECTIVE	4	PHYS 202.....	4
BIOLOGY ELECTIVE	4	BIOLOGY ELECTIVE	4
Total Hours - Fall Semester	15	GENERAL ELECTIVE	3
		Total Hours - Spring Semester	16

FOURTH YEAR

BIOLOGY ELECTIVES.....	8	BIOL 456 (OR) BIOLOGY ELECTIVE.....	4
BIOL 497 (OR) 499.....	1	BIOL 493	1
ENGL 203, 204, 205, (OR) 206	3	BIOL 497 (OR) 499.....	1
GENERAL ELECTIVE	3-4	GENERAL ELECTIVE	7
Total Hours - Fall Semester	15-16	Total Hours - Spring Semester	13

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BACHELOR OF ARTS CHEMISTRY

GSU 100 The First Year Experience 0 hour

All degree seeking students are required to take GSU 100 during their first semester.

General Education Requirements 30 hours

Students must complete CHEM 101, and MATH 115 as part of the General Education requirements.

Chemistry Major Requirement 49 hours

BIOL	120	Principles of Biology I	4
CHEM	101	General Chemistry I	
CHEM	102	General Chemistry II	4
CHEM	293	Techniques of Chemistry	1
CHEM	301	Organic Chemistry I	4
CHEM	302	Organic Chemistry II	4
CHEM	307	Inorganic Chemistry (OR)	
CHEM	380	Biochemistry I	4
CHEM	321	Analytical Chemistry I	4
CHEM	493	Senior Research Seminar	2
MATH	120	Precalculus	4
MATH	256	Probability and Statistics I	3
PHYS	201	General Physics I	4
PHYS	202	General Physics II	4
CHEM Electives	(select from the following)		7
CHEM	307	Inorganic Chemistry	4
CHEM	322	Analytical Chemistry	4
CHEM	341	Nuclear Chemistry	4
CHEM	345	Introductory Physical Chemistry	3
CHEM	380	Biochemistry I	4
CHEM	381	Biochemistry II	4

Minor (hours will vary depending on minor selection) 20 hours

General Electives (hours will vary depending on minor selection) 21 hours

Recommended courses for graduate school in chemistry:

CHEM	322	Analytical Chemistry II	4
CHEM	345	Introductory Physical Chemistry*	3
MATH	202	Calculus I	4
MATH	207	Calculus II	4
PHYS	350	Modern Physics	3

Total minimum hours required for degree 120 hours

GATEWAY ASSESSMENT - CHEM 293

CAPSTONE ASSESSMENT - CHEM 493

**If introductory physical chemistry is taken as one of the chemistry electives then additional hours in math courses are required as prerequisites. Introductory physical chemistry (CHEM 345) requires 4 additional hours of math (MATH 202).*

Students enrolled in chemistry courses are responsible for all lost or broken glassware and equipment. At the beginning of the semester, the student will verify that all laboratory items assigned to him/her are present and in good condition. At the end of the semester, the student must return all items in the same condition. If

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any items were lost or broken throughout the semester, the student will receive a financial statement either during the last week of classes or during the final examination period. This financial obligation must be paid to the Cashier's Office before the student can graduate. Students who fail to check out of the laboratory will be charged an additional fee.

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BA - CHEMISTRY SUGGESTED PLAN OF STUDY

FIRST YEAR

CART 101	3		
CHEM 101	4	BIOL 120.....	4
ENGL 101	3	CHEM 102.....	4
GSU 100.....	0	ENGL 102	3
HIST 201, 202, 207, 208 (OR) POSC 203	3	MATH 256	3
MATH 115	3	Total Hours - Spring Semester	14
Total Hours - Fall Semester	16		

SECOND YEAR

CHEM 293	1		
CHEM 301	4	CHEM 302.....	4
ENGL 203, 204, 205 (OR) 206	3	PHYS 202.....	4
MATH 120	4	MINOR/GENERAL ELECTIVES	6
PHYS 201.....	4	Total Hours - Spring Semester	14
Total Hours - Fall Semester	16		

THIRD YEAR

CHEM 307 (OR) CHEM 380 (OR)		ART 200 (OR) MUSC 200.....	2
CHEM 321	4	CHEMISTRY ELECTIVES.....	4
HIST 201, 202, 207, 208 (OR) POSC 203	3	ECON 201, 202, GEOG 203, PSYC 201,	
MINOR/GENERAL ELECTIVES	8	(OR) SOCS 225.....	3
Total Hours - Fall Semester	15	MINOR/GENERAL ELECTIVES	6
		Total Hours - Spring Semester	15

FOURTH YEAR

CHEM 321 (OR) CHEM 307 (OR)		CHEMISTRY ELECTIVE	3
CHEM 380	4	MINOR/ELECTIVES	12
CHEM 493	2	Total Hours - Spring Semester	15
MINOR/GENERAL ELECTIVES	9		
Total Hours - Fall Semester	15		

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BACHELOR OF ARTS EDUCATION BIOLOGY (9-Adult)

Candidates may wish to combine this specialization with another (5-9), (9-Adult), (5-Adult) or (PreK-Adult) specialization.

GSU 100 The First Year Experience **0 hour**
All degree seeking students are required to take GSU 100 during their first semester.

General Education Requirements **30 hours**
Students must complete CART 101, CHEM 101, and MATH 115 as part of the General Education requirements.

Content Specialization Courses **46 hours**

Total Hours in Biology **35 hours**

BIOL	120	Principles of Biology I	4
BIOL	121	Principles of Biology II	4
BIOL	193	Scientific Writing	1
BIOL	293	Experimental Design	1
BIOL	305	General Botany	4
BIOL	314	Zoology	4
BIOL	335	Cell Physiology	4
BIOL	371	Evolution	4
BIOL	400	Ecology and Field Biology	4
BIOL	456	Genetics	4
BIOL	493	Senior Seminar	1

Total Hours in Chemistry **4 hours**

CHEM	101	General Chemistry I	
CHEM	102	General Chemistry II	4

Total Hours in Mathematics **3 hours**

MATH	115	College Algebra	
MATH	256	Probability and Statistics I	3

Total Hours in Physics **4 hours**

PHYS	201	General Physics I	4
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Professional Education			26 hours
CART	101	Introduction to Public Speaking	
CSCI	267	Computer Skills for Education	3
EDSP	220	Introduction to Educating Exceptional and Culturally Diverse Students	3
EDSP	334	Strategies for Educating Exceptional and Culturally Diverse Students	3
EDUC	203	Foundations of Education	3
EDUC	205	Educational Psychology*	3
EDUC	310	Classroom Management and Teaching Strategies	3
EDUC	345	Teaching Science in Middle and Adolescent Education (5-Adult)	2
EDUC	412	Curriculum and Assessment: Content (5-Adult)	2
PED	201	First Aid and Safety	1
READ	317	Teaching Reading in Middle and Adolescent Education	3
Student Internship			18 hours
EDUC	470	Residency I	6
EDUC	480	Residency II	11
EDUC	493	Capstone Assessment	1

Total minimum hours required for degree **120 hours**

Education 203 and Education 205 are the only Professional Education courses which can be attempted without being admitted to a Program in Teacher Education.

*Before enrolling in Education 205, a student must have attempted PRAXIS CORE or be exempt from this requirement due to ACT or SAT score.

GATEWAY ASSESSMENT – ADMISSION TO TEACHER EDUCATION

CAPSTONE ASSESSMENT – EDUCATION 493

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BIOLOGY (9-Adult) SUGGESTED PLAN OF STUDY

FIRST YEAR

BIOL 120 (OR) BIOL 121	4	BIOL 121 (OR) BIOL 120	4
BIOL 193	1	CART 101	3
CSCI 267	3	EDUC 205	3
EDUC 203	3	ENGL 102	3
ENGL 101	3	MATH 256	3
GSU 100	0	Total Hours - Spring Semester	16
MATH 115	3		
Total Hours - Fall Semester	17		

**REGISTER FOR/ATTEMPT PRAXIS
CORE PRIOR TO REGISTERING FOR
EDUC 205**

SECOND YEAR

BIOL 210.....	4	ART 200 (OR) MUSC 200.....	2
BIOL 293.....	1	BIOL 305 AND/OR BIOL 335 AND/OR BIOL 371	8
CHEM 101	4	CHEM 102.....	4
EDSP 220	3	PED 201.....	1
HIST 201, 202, 207, 208 (OR) POSC 203	3	Total Hours - Spring Semester	15
Total Hours - Fall Semester	15		

THIRD YEAR

BIOL 400.....	4	BIOL 305 AND/OR BIOL 335 AND/OR BIOL 371	4
ECON 201, 202, GEOG 203, PSYC 201, (OR) SOCS 225.....	3	BIOL 456.....	4
EDUC 310	3	EDSP 334	3
HIST 201, 202, 207, 208 (OR) POSC 203	3	EDUC 412	2
PHYS 201.....	4	ENGL 203, 204, 205 (OR) 206	3
Total Hours - Fall Semester	17	Total Hours - Fall Semester	16

PASS PRAXIS II EXAM

FOURTH YEAR

BIOL 493.....	1	EDUC 480	11
EDUC 345	2	EDUC 493	1
EDUC 470	6	Total Hours - Spring Semester	12
READ 317	3	*Interns may not enroll in any other courses.	
Total Hours - Fall Semester	12		

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BACHELOR OF ARTS EDUCATION CHEMISTRY (9-Adult)

Candidates may wish to combine this specialization with another (5-9), (9-Adult), (5-Adult) or (PreK-Adult) specialization.

GSU 100 The First Year Experience 0 hour
All degree seeking students are required to take GSU 100 during their first semester.

General Education Requirements 30 hours
Students must complete CART 101, CHEM 101 and MATH 202* as part of the General Education requirements.

*MATH 115 and MATH 120 or 125 may be required as a prerequisite for MATH 202 if candidates do not have a MATH ACT of 24 or SAT of 610 or higher.

Content Specialization Courses 46 hours

Total Hours in Biology 8

BIOL	120	Principles of Biology I	4
BIOL	121	Principles of Biology II	4

Total Hours in Chemistry 27

CHEM	101	General Chemistry I	
CHEM	102	General Chemistry II	4
CHEM	293	Techniques of Chemistry	1
CHEM	301	Organic Chemistry I	4
CHEM	302	Organic Chemistry II	4
CHEM	307	Inorganic Chemistry	4
CHEM	321	Analytical Chemistry I	4
CHEM	380	Biochemistry I	4
CHEM	493	Senior Research Seminar	2

Total Hours in Physics 11

PHYS	201	General Physics I	4
PHYS	202	General Physics II	4
PHYS	345	Introductory Chemical Physics	3

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Professional Education			26 hours
CART	101	Introduction to Public Speaking	
CSCI	267	Computer Skills for Education	3
EDSP	220	Introduction to Educating Exceptional and Culturally Diverse Students	3
EDSP	334	Strategies for Educating Exceptional and Culturally Diverse Students	3
EDUC	203	Foundations of Education	3
EDUC	205	Educational Psychology*	3
EDUC	310	Classroom Management and Teaching Strategies	3
EDUC	345	Teaching Science in Middle and Adolescent Education (5-Adult)	2
EDUC	412	Curriculum and Assessment: Content (5-Adult)	2
PED	201	First Aid and Safety	1
READ	317	Teaching Reading in Middle and Adolescent Education	3
Residency			18 hours
EDUC	470	Residency I	6
EDUC	480	Residency II	11
EDUC	493	Capstone Assessment	1

Total minimum hours required for degree **120 hours**

Education 203 and Education 205 are the only Professional Education courses which can be attempted without being admitted to a Program in Teacher Education.

*Before enrolling in Education 205, a candidate must have attempted PRAXIS CORE or be exempt from this requirement due to ACT or SAT score.

GATEWAY ASSESSMENT – ADMISSION TO TEACHER EDUCATION

CAPSTONE ASSESSMENT – EDUC 493