

Physical Education 5
 Total hours for the degree 131-142
 (A Senior Exit Examination is required of all graduating biology majors)

BIOLOGY **Minor in Biology**

~~Students minoring in biology should see a biology faculty member as early in their careers as possible.~~

~~Prerequisites 8
 Biology 1107 and 1108 Principles of Biology I and II~~

~~Upper Division Courses 15~~

~~In consultation with your major department and the Biology Department, select 15-18 hours of 3000 and 4000 level biology courses. Grade of C or better is required in all these courses.~~

~~Total Upper Division Hours for the Biology Minor 15~~



CHEMISTRY AND PHYSICS PROGRAMS

CHEMISTRY - Professional Track **Bachelor of Science with a Major in Chemistry**

The professional track prepares the student for graduate study in chemistry and provides for job entry level as a chemist. (Grade of C or better is required in all chemistry courses)

Core Curriculum Areas A-E for Science Majors 42

Core Curriculum Area F 18

CHEM 1211, 1212 Principles of Chemistry I, II	8
CHEM 2810 Quantitative Analysis	4
MATH 2011, 2012 Calculus I - (one hour), II	5
CSCI 1200 (or higher) Introduction to Computers and Programming, one hour	1

Non-Core Courses 5-16

MATH 2011 (if not in D, transfer student)	0-3
CSCI 1200 (or higher)(two hours from F)	2
PHYS 2211, 2212 Principles of Physics I, II (if not in D)	0-8
MATH 3020 Differential Equations	3

Major Concentration 39

CHEM 3411, 3412 Organic Chemistry I, II	8
CHEM 3721, 3722 Physical Chemistry I, II	8
CHEM 3810 Advanced Organic Chemistry	4
CHEM 3820 Laboratory Management and Safety	2
CHEM 4210 Advanced Inorganic Chemistry	3
CHEM 4551, 4552 Biochemistry I, II	7
CHEM 4830 Principles of Instrument Design	3
CHEM 4840 Instrumental Analysis	4

Electives 5-16
 Physical Education 5

Satisfactory Chemistry Oral Exam (Departmental Requirement)

Chemistry Written Exit Exam (Institutional Requirement)

Total Hours for the Degree 125

CHEMISTRY - Biochemistry Track**Bachelor of Science
with a Major in Chemistry**

The pre-professional track is ideal for pre-med, pre-dentistry, or graduate study in biochemistry.

(Grade of C or better is required in all chemistry courses)

Core Curriculum Areas A-E for Science Majors		42
Core Curriculum Area F		18
CHEM 1211, 1212 Principles of Chemistry I, II	8	
CHEM 2810 Quantitative Analysis	4	
MATH 2011 Calculus and Analytic Geometry I - (1 hour)	1	
PHYS 1111 Introductory Physics I	4	
PHYS 1112 Introductory Physics II	1	
Non-Core Courses		6-9
MATH 2011 (if not in D, transfer student)	0-3	
PHYS 1112 (three hours from F)	3	
CSCI 1200 (or higher)	3	
Major Concentration		32
CHEM 3411, 3412 Organic Chemistry I, II	8	
CHEM 3721 Physical Chemistry I	4	
CHEM 3810 Advanced Organic Chemistry	4	
CHEM 3820 Laboratory Management and Safety	2	
CHEM 4210 Advanced Inorganic Chemistry	3	
CHEM 4551, 4552 Biochemistry I, II	7	
CHEM 4840 Instrumental Analysis	4	
Minor Concentration: Biology Recommended (with BIOL 1107, 1108, in Area D)		15-18
Electives		1 - 7
Six hours of 3000/4000 level courses in minor plus electives		
Physical Education		5
Satisfactory Chemistry Oral Exam Departmental Requirement Chemistry Written Exit Exam Institutional Requirement		
Total Hours for the Degree		125

CHEMISTRY**Bachelor of Science
with a Major in Chemistry
with Certification in Secondary Education**

Core Curriculum Areas A-E for Science Majors		42
Core Curriculum Area F		18
(Grade C or better in all these courses)		
CHEM 1211, 1212 Principles of Chemistry I, II	8	
CHEM 2810 Quantitative Analysis	4	
MATH 2011 Calculus and Analytic Geometry I (other hours in Area D)	1	
PHYS 1111 Introductory Physics I	4	
PHYS 1112 Introductory Physics II	1	
Lower level Requirements of Chemistry Major		15
(Grade C or better in all these courses)		
BIOL 1107 & 1108 (hours not taken in Area D)	0	
PHYS 1112 (three hours from F)	3	
CSCI 1200 (or higher)	3	
EDUC 2101 Introduction to the Historical and Philosophical Foundations of American Education	3	
EDUC 2102 Human Growth and Development	3	
SPED 2000 Teaching Students w/Disabilities in General Education Classrooms	3	
*EDUC & SPED courses should be taken before junior year		
Chemistry Concentration		32
(Grade of C or better is required in all these courses)		
CHEM 3411, 3412 Organic Chemistry I, II	8	
CHEM 3721 Physical Chemistry I	4	
CHEM 3810 Advanced Organic Chemistry	4	
CHEM 3820 Laboratory Management and Safety	2	
CHEM 4210 Advanced Inorganic Chemistry	3	
CHEM 4551, 4552 Biochemistry I, II	7	
CHEM 4840 Instrumental Analysis	4	
Secondary Teacher Certification		25
(Grade of C better if required in all these courses)		
SCED 4101 Secondary School Student: Implications for Curriculum, Instruction, Assessment and Management	3	
SCED 4102 Secondary School Context and Curriculum Coherence and Classroom Management	3	
SCED 4401 Science Pedagogy I	3	
SCED 4402 Science Pedagogy II	3	
SCED 4901 Secondary Apprenticeship/Seminar	13	
Elective (to handle transfers within the University System)		0
Physical Education		5
Total Hours for the Degree		137

CHEMISTRY**Minor in Chemistry**

(Grade of C or better is required in all chemistry courses)

Prerequisite Courses

CHEM 1211, 1212 Principles of Chemistry I, II

CHEM 2810 Quantitative Analysis

Minor Concentration

Includes four hours from CHEM 2810

CHEM 3411 Organic Chemistry I

Select one 4-hour and one 3- or 4-hour course from

CHEM 3412, 3721, 3722, 3810, 4210, 4551, 4840

4

4

7-8

All courses must be approved by the Chair of the

Department of Chemistry and Physics.

(Prior approval is recommended)

Total Hours for the Chemistry Minor

15-16

~~ENGINEERING~~**~~Pre-Engineering Curriculum~~**

~~Curriculum includes most of courses required of freshmen and sophomores at colleges of engineering.~~

~~Science and mathematics courses for engineering programs at University System of Georgia institutions include:~~

~~Core Area A~~

~~MATH 2011 Calculus and Analytic Geometry I~~

4

~~Core Area D~~

~~MATH 2012 Calculus II~~

4

~~Recommended: CHEM 1211, 1212 Principles of Chemistry I, II~~

8

~~Core Area F~~

~~PHYS 2211, 2212 Principles of Physics I, II~~

8

~~MATH 2013 Calculus III~~

4

~~MATH 3020 Differential Equations~~

3

~~Also recommended: CSCI 2060 Computer Science~~

~~Programming for Science and Engineering~~

3

~~The remaining courses for Core Areas A through E should be selected from courses listed under Core Curriculum. The student should refer to the catalog of the Georgia Institute of Technology or of the institution to which one intends to transfer.~~

PHYSICS**Bachelor of Science with a Major in Physics**

~~This program prepares the student for graduate study in physics and provides for job entry level as a physicist.~~

~~(Grade of C or better is required in all physics courses.)~~

~~Core Curriculum Areas A-E for Science Majors~~

42

~~Core Curriculum Area F~~

18

~~PHYS 2211, 2212 Principles of Physics I, II~~

8

~~MATH 2011, 2012, 2013 Calculus I one hour, II, III~~

9

~~CSCI 1301 or 2060 Programming for Science and Engineering~~

4

~~Non-Core Courses~~

6-17

~~MATH 2011 (if not in D, transfer student)~~

0-3

~~CSCI 1301 or 2060 (three hours from F)~~

3

~~CHEM 1211, 1212 Principles of Chemistry I, II (if not in D)~~

0-8

~~MATH 3020 Differential Equations~~

3

~~Major Concentration~~

38

~~PHYS 3011, 3012 Electronics I, II~~

8

~~PHYS 3040 Advanced Optics~~

4

~~PHYS 3251, 3252 Theoretical Mechanics I, II~~

6

~~PHYS 4051, 4052 Electromagnetic Theory I, II~~

6

~~PHYS 4310 Thermal Physics~~

3

~~PHYS 4530 Mathematical Methods of Physics~~

3

~~PHYS 4511, 4512 Quantum Physics I, II~~

8

~~Electives~~

6-17

~~Physical Education~~

5

~~Satisfactory Physics Oral Exam Departmental Requirement~~

~~Physics Written Exit Exam Institutional Requirement~~

~~Total Hours for Degree~~

125