

# College of Sciences and Mathematics

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**T**HE COLLEGE OF SCIENCES AND MATHEMATICS provides programs in the physical sciences, life sciences and mathematics at the undergraduate and graduate levels. The College also offers scientific and mathematical service courses for students enrolled in all of the other colleges and schools. The College includes the departments of Biological Sciences, Chemistry, Discrete and Statistical Sciences, Geology and Geography, Mathematics and Physics. The Arboretum and the Leach Science Center are also included in the College of Sciences and Mathematics.

## Undergraduate Degrees

- Four-year bachelor's degree programs are offered in two areas:
  - Departmental curricula are available in biomedical sciences, botany, chemistry, biochemistry, geography, geology, laboratory and medical technology, microbiology, molecular biology, marine biology, mathematics, applied mathematics, applied discrete mathematics, physics and zoology.
  - Pre-professional curricula are offered in pre-dentistry, pre-medicine, pre-optometry, pre-physical therapy, pre-pharmacy and pre-veterinary medicine.

Embodied in these curricula are the requirements of the University Core Curriculum.

- Admission — The academic requirements and demands on majors in sciences and mathematics necessitate a high school preparation of high intellectual quality. The following courses are recommended as minimum preparation: English, four units; mathematics (including algebra, geometry, trigonometry and pre-calculus), four units; chemistry, one unit; biology, one unit; history, literature, social science, two or three units. Both physics and foreign language are highly recommended.

Many COSAM curricula require students to begin with MATH 1610. Students not prepared for MATH 1610 must first take a lower-numbered course. See adviser for details.

Transfers from on-campus may declare a major in the College of Sciences and Mathematics if they: (1) have a cumulative Auburn GPA of at least 2.0 (on all work attempted) and (2) have completed at least 10 hours of Auburn University course work in the desired major with at least a 2.0 GPA in all such courses. Courses in the major are those carrying the appropriate prefix(es) of the intended curriculum. Students not meeting these standards may enroll in the Undeclared Sciences and Mathematics (UNSM) curriculum if they have not reached senior standing. Students in the UNSM curriculum may declare a Sciences and Mathematics major after satisfying the above requirements. A student who enters the UNSM curriculum because he or she is not qualified to declare a major can remain in UNSM for a maximum of one year or until senior standing is reached. After this, if the student is still not qualified to declare a major, he or she will be disenrolled from the College of Sciences and Mathematics.

## Graduate Degrees

Master of Science and Doctor of Philosophy degrees are offered in the College of Sciences and Mathematics. Degree programs are described in this *Bulletin*.

## Dual-Degree Program in Engineering

This program provides for enrollment in a curriculum of the College of Sciences and Mathematics for approximately three academic years and in the College of Engineering for approximately two academic years.

The student must complete the basic requirements of the University Core Curriculum and the requirements for a major within a department in the College of Sciences and Mathematics. The student is not required to take the usual number of hours of electives. Thus, he/she may transfer to the College of Engineering after the end of the junior year. Following completion of the academic requirements for one of the baccalaureate degrees in the College of Engineering,

two degrees will be awarded: a Bachelor of Science degree in the Sciences and Mathematics major, and a bachelor's degree in the designated engineering field.

## Curriculum in Materials Engineering

An interdisciplinary curriculum in materials engineering is administered by the Department of Mechanical Engineering in the College of Engineering. It is conducted cooperatively by academic departments of the College of Engineering and the College of Sciences and Mathematics through a faculty Materials Engineering Curriculum Committee.

## Web Page

Further information about the College of Sciences and Mathematics can be found at: <http://www.auburn.edu/cosam/>

## General Sciences and Mathematics Curriculum (UNSM)

This curriculum is primarily for freshmen who have not decided on a specific major field of study and for transfer students having deficiencies which preclude their acceptance in a degree program. Freshmen entering this curriculum must declare a major by the end of their first year. Transfer students must complete a specific approved program to clear their admission to a major field of study.

The General Curriculum (UNSM)					
FR	F	S		F	S
MATH	1610	1620	Calculus I & II .....	4	4
ENGL	1100	1120	English Composition I & II .....	3	3
			Science.....	4	4
			Core Social Science Group 1 & 2.....	3	3
			Career Exp .....	2	**
			Elective.....	**	2
				<b>16</b>	<b>16</b>
<b>TOTAL HOURS — 32</b>					

## Departmental Curricula

Departmental curricula leading to the Bachelor of Science degree include botany, chemistry, biochemistry, biomedical sciences, geography, geology, microbiology, molecular biology, marine biology, laboratory and medical technology, mathematics, applied mathematics, applied discrete mathematics, physics and zoology.

## Botany

The botany major is for students interested in various careers in the plant sciences. Students may pursue either the Ecology and Evolution Track or the Cellular and Molecular Track

### Curriculum in Botany/Ecology and Evolution Track (BTNY, ECEV)

FR	F	S		F	S
BIOL	1020		Principles of Biology.....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English.....	3	3
MATH	1610	1620	Calculus I & II.....	4	4
CHEM	1030	1040	Fundamentals of Chemistry I & II .....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab .....	1	1
				<b>15</b>	<b>15</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
			Core History .....	3	3
			Core Social Science.....	3	3
			Core Fine Arts.....	3	**
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
BIOL		<b>3000</b>	<b>Genetics .....</b>	<b>**</b>	<b>4</b>
				<b>16</b>	<b>17</b>

<b>JR</b>					
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511)	4	4
			Core Philosophy .....	**	3
STAT		3010	Statistics for Engr. & Sci. ....	**	3
<b>BIOL</b>	<b>3030</b>		<b>Evolution &amp; Systematics .....</b>	<b>3</b>	<b>**</b>
<b>BIOL</b>	<b>3100</b>		<b>Plant Biology .....</b>	<b>3</b>	<b>**</b>
<b>BIOL</b>	<b>3101</b>		<b>Plant Biology Lab .....</b>	<b>1</b>	<b>**</b>
<b>BIOL</b>		<b>3060</b>	<b>Principles of Ecology .....</b>	<b>**</b>	<b>4</b>
			Elective .....	4	3
				<b>15</b>	<b>17</b>
<b>SR</b>					
<b>BIOL</b>	<b>4300</b>		<b>Plant Anatomy &amp; Development .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>	<b>4950</b>		<b>Undergraduate Seminar .....</b>	<b>1</b>	<b>**</b>
<b>BIOL</b>		<b>6120</b>	<b>Systematic Botany .....</b>	<b>**</b>	<b>4</b>
<b>BIOL</b>		<b>6130</b>	<b>Plant Physiology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>6140</b>	<b>Plant Ecology .....</b>	<b>**</b>	<b>4</b>
			<b>Biology Elective .....</b>	<b>4</b>	<b>4</b>
				<b>13</b>	<b>12</b>
			<b>TOTAL HOURS — 120</b>		

Biology Elective: see adviser for approved course listing.  
 Students must either pass the computer competency test or take COMP 1000 as one of their electives.

**Curriculum in Botany/  
 Cellular and Molecular Track (BTNY, CMLB)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
BIOL	1020		Principles of Biology .....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English .....	3	3
MATH	1610	1620	Calculus I & II .....	4	4
CHEM	1030	1040	Fundamentals of Chemistry I & II .....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab .....	1	1
				<b>15</b>	<b>15</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II .....	3	3
			Core Social Science Group 1 & 2 .....	3	3
			Core Fine Arts .....	3	**
			Core History .....	3	3
CHEM	2070	2080	Organic Chemistry I & II .....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab .....	1	1
<b>BIOL</b>		<b>3000</b>	<b>Genetics .....</b>	<b>**</b>	<b>4</b>
				<b>16</b>	<b>17</b>
<b>JR</b>					
PHYS	1500	1510	General Physics I & II Labs (1501, 1511) ..	4	4
			Core Philosophy .....	**	3
<b>BIOL</b>	<b>3100</b>		<b>Plant Biology .....</b>	<b>3</b>	<b>**</b>
<b>BIOL</b>	<b>3101</b>		<b>Plant Biology Lab .....</b>	<b>1</b>	<b>**</b>
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology .....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>		<b>3200</b>	<b>General Microbiology .....</b>	<b>4</b>	<b>**</b>
			Elective .....	3	3
				<b>15</b>	<b>13</b>
<b>SR</b>					
<b>BIOL</b>	<b>4300</b>		<b>Plant Anatomy &amp; Development .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>4220</b>	<b>Molecular Genetics .....</b>	<b>**</b>	<b>4</b>
<b>BIOL</b>	<b>4950</b>		<b>Undergraduate Seminar .....</b>	<b>1</b>	<b>**</b>
<b>BIOL</b>		<b>6120</b>	<b>Systematic Botany .....</b>	<b>**</b>	<b>4</b>
<b>BIOL</b>		<b>6130</b>	<b>Plant Physiology .....</b>	<b>**</b>	<b>4</b>
			<b>Biology Elective .....</b>	<b>4</b>	<b>**</b>
BCHE	6180	6190	Biochemistry I & II .....	3	3
BCHE	6181	6191	Biochemistry I & II Lab .....	1	1
				<b>13</b>	<b>16</b>
			<b>TOTAL HOURS — 120</b>		

Biology Electives: see adviser for approved course listing.  
 Students must either pass the computer competency test or take COMP 1000 as one of their electives

**Chemistry**

These curricula, accredited by the American Chemical Society, prepare students for careers in pure and applied chemistry with a dual emphasis on classroom and laboratory experience. A flexible senior year allows students to tailor the program to individual professional goals. Graduates are prepared to enter the profession immediately or continue for advanced degree programs. The senior research program introduces students to modern advanced techniques and approaches to chemical research in an area of their interest by having them complete an individual research project in conjunction with a faculty adviser.

			<b>Curriculum in Chemistry (CHEM)</b>		
<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
ENGL	1100	1120	English Composition I & II .....	3	3
MATH	1610	1620	Calculus I & II .....	4	4
			Core History .....	3	3
<b>CHEM</b>	<b>1110</b>	<b>1120</b>	<b>General Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>1111</b>	<b>1121</b>	<b>General Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
<b>CHEM</b>	<b>1200</b>		<b>Chemical Application .....</b>	<b>1</b>	<b>**</b>
				<b>15</b>	<b>14</b>
<b>SO</b>					
PHYS	1600	1610	Engr Physics I & II & Labs (1601, 1611) ..	4	4
ENGL	2200		Great Books I .....	3	**
MATH	2630		Calculus III .....	4	**
MATH		2650	Linear Differential Equations .....	**	3
<b>CHEM</b>	<b>2070</b>	<b>2080</b>	<b>Organic Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>2071</b>	<b>2081</b>	<b>Organic Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
<b>CHEM</b>	<b>2200</b>		<b>Chemical Application II .....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>		<b>3050</b>	<b>Analytical Chemistry .....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>		<b>3051</b>	<b>Analytical Chemistry Lab .....</b>	<b>**</b>	<b>1</b>
				<b>16</b>	<b>15</b>

<b>JR</b>					
ENGL	2210		Great Books II .....	3	**
			Core Social Science I .....	**	3
MATH	2660		Topics in Linear Algebra .....	3	**
<b>BCHE</b>	<b>6180</b>		<b>Biochemistry .....</b>	<b>3</b>	<b>**</b>
<b>BCHE</b>	<b>6181</b>		<b>Biochemistry Lab .....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>		<b>3000</b>	<b>Chemical Literature .....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>	<b>3200</b>		<b>Chemical Application III .....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>		<b>6040</b>	<b>Computational Chemistry .....</b>	<b>**</b>	<b>4</b>
<b>CHEM</b>	<b>6070</b>	<b>6080</b>	<b>Physical Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>6071</b>	<b>6081</b>	<b>Physical Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
			Elective .....	**	3
				<b>15</b>	<b>15</b>
<b>SR</b>					
			Core Social Science Group 2 .....	3	**
			Core Philosophy .....	**	3
			Core Fine Arts .....	3	**
<b>BCHE</b>		<b>6190</b>	<b>Biochemistry II .....</b>	<b>**</b>	<b>3</b>
<b>BCHE</b>		<b>6191</b>	<b>Biochemistry II Lab .....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>		<b>4901</b>	<b>Special Problems in Chemistry .....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>		<b>4950</b>	<b>Undergraduate Seminar .....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>	<b>6100</b>	<b>6110</b>	<b>Inorganic Chemistry .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>6101</b>	<b>6111</b>	<b>Inorganic Chemistry Lab .....</b>	<b>1</b>	<b>1</b>
<b>CHEM</b>	<b>6130</b>		<b>Instrumental Analysis .....</b>	<b>3</b>	<b>**</b>
<b>CHEM</b>	<b>6131</b>		<b>Instrumental Analysis Lab .....</b>	<b>1</b>	<b>**</b>
			Elective .....	3	**
				<b>17</b>	<b>15</b>
			<b>TOTAL HOURS — 122</b>		

**Curriculum in Biochemistry (BCHM)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
ENGL	1100	1120	English Composition I & II .....	3	3
MATH	1610	1620	Calculus I & II .....	4	4
			Core History .....	3	**
<b>BIOL</b>		<b>1020</b>	<b>Principles of Biology .....</b>	<b>**</b>	<b>4</b>
<b>CHEM</b>	<b>1110</b>	<b>1120</b>	<b>General Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>1111</b>	<b>1121</b>	<b>General Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
<b>CHEM</b>	<b>1200</b>		<b>Chemical Application .....</b>	<b>1</b>	<b>**</b>
				<b>15</b>	<b>15</b>
<b>SO</b>					
PHYS	1600	1610	Engr. Physics I & II & Labs (1601, 1611) ..	4	4
			Core History .....	3	**
MATH	2630		Calculus III .....	4	**
MATH		2650	Linear Differential Equation .....	**	3
<b>CHEM</b>	<b>2070</b>	<b>2080</b>	<b>Organic Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>2071</b>	<b>2081</b>	<b>Organic Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
<b>CHEM</b>	<b>2200</b>		<b>Chemical Application II .....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>		<b>3050</b>	<b>Analytical Chemistry .....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>		<b>3051</b>	<b>Analytical Chemistry Lab .....</b>	<b>**</b>	<b>1</b>
				<b>16</b>	<b>15</b>
<b>JR</b>					
ENGL		2200	Great Books I .....	**	3
BIOL	3200		General Microbiology .....	4	**
<b>BCHE</b>	<b>6180</b>	<b>6190</b>	<b>Biochemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>BCHE</b>	<b>6181</b>	<b>6191</b>	<b>Biochemistry Lab .....</b>	<b>1</b>	<b>1</b>
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology .....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>		<b>3000</b>	<b>Chemical Literature .....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>	<b>3200</b>		<b>Chemical Application III .....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>	<b>6070</b>	<b>6080</b>	<b>Physical Chemistry I &amp; II .....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>6071</b>	<b>6081</b>	<b>Physical Chemistry Lab I &amp; II .....</b>	<b>1</b>	<b>1</b>
			Elective .....	1	**
				<b>14</b>	<b>15</b>

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<b>SR</b>					
ENGL	2210		Great Books II.....	3	**
			Core Fine Arts.....	**	3
			Core Philosophy.....	**	3
			Core Social Science Group 1 & 2.....	3	3
<b>CHEM</b>	<b>4901</b>		<b>Special Problems in Chemistry.....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>	<b>4950</b>		<b>Undergraduate Seminar.....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>	<b>6100</b>		<b>Inorganic Chemistry.....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>	<b>6101</b>		<b>Inorganic Chemistry Lab.....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>	<b>6130</b>		<b>Instrumental Analysis.....</b>	<b>3</b>	<b>**</b>
<b>CHEM</b>	<b>6131</b>		<b>Instrumental Analysis Lab.....</b>	<b>1</b>	<b>**</b>
			Elective.....	**	3
			Elective.....	**	2
			<b>TOTAL HOURS — 122</b>	<b>16</b>	<b>16</b>

Geography

This curriculum in geography promotes geographic literacy as an indispensable element in any educational program. It focuses on spatial relationships and the view of the Earth as the home of humankind. Geography readies students for careers in public services, consulting companies, state or federal agencies, utilities and other professions, as well as for graduate studies in geography.

**Curriculum in Geography (GEOG)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
ENGL	1100	1120	English Composition I & II.....	3	3
MATH	1610		Calculus I.....	4	**
			Core History.....	3	3
			Core Philosophy.....	**	3
<b>COMM</b>		1000	Public Speaking.....	**	3
			Foreign Language.....	4	4
			<b>TOTAL HOURS — 14</b>	<b>14</b>	<b>16</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
GEOL	1100		Physical Geology.....	4	**
GEOL		1110	Historical Geology.....	**	4
			Core Fine Arts.....	**	3
			Core Social Science Group 1 & 2.....	3	3
<b>STAT</b>		2510	Statistics for Biology & Health Sci.....	**	3
<b>GEOG</b>	<b>2010</b>		<b>Cultural Geography.....</b>	<b>**</b>	<b>3</b>
<b>GEOG</b>	<b>2020</b>		<b>Physical Geography.....</b>	<b>**</b>	<b>3</b>
			<b>TOTAL HOURS — 16</b>	<b>16</b>	<b>16</b>
<b>JR</b>					
<b>GEOG</b>	<b>2800</b>		<b>Geographic Methods.....</b>	<b>4</b>	<b>**</b>
<b>GEOG</b>	<b>3820</b>		<b>Remote Sensing.....</b>	<b>4</b>	<b>**</b>
<b>GEOG</b>	<b>3830</b>		<b>GIS.....</b>	<b>**</b>	<b>4</b>
<b>GEOG</b>			<b>Elective.....</b>	<b>**</b>	<b>3</b>
			<b>Social Science Elective.....</b>	<b>3</b>	<b>**</b>
			Technical Elective.....	6	3
			Elective.....	**	3
			<b>TOTAL HOURS — 17</b>	<b>17</b>	<b>13</b>
<b>SR</b>					
			Technical Elective.....	**	4
<b>GEOG</b>	<b>3810</b>		<b>Cart and Graphics.....</b>	<b>4</b>	<b>**</b>
<b>GEOG</b>	<b>4800</b>		<b>Geographic Thought.....</b>	<b>**</b>	<b>3</b>
<b>GEOG</b>			<b>Elective.....</b>	<b>6</b>	<b>3</b>
			Elective.....	4	4
			<b>TOTAL HOURS — 14</b>	<b>14</b>	<b>14</b>

**TOTAL HOURS — 120**

Technical Elective: see adviser for approved course listing.  
 GEOG Elective: see adviser for approved course listing.  
 Students either pass the computer competency test or take COMP 1000 as one of their electives.

Geology

This curriculum provides a background in the geosciences and opportunity to specialize in an area of interest (i.e., environmental geology, paleontology) through elective major or related courses. It is designed for those interested in preparation for graduate studies or employment in the field of geology.

**Curriculum in Geology (GEOL)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab.....	1	1
			Core History.....	3	3
ENGL	1100	1120	English Composition I & II.....	3	3
<b>GEOL</b>	<b>1100</b>		<b>Physical Geology.....</b>	<b>4</b>	<b>**</b>
<b>GEOL</b>	<b>1110</b>		<b>Historical Geology.....</b>	<b>**</b>	<b>4</b>
			<b>TOTAL HOURS — 14</b>	<b>14</b>	<b>14</b>

<b>SO</b>					
BIOL	1020		Principles of Biology.....	4	**
BIOL	1030		Organismal Biology.....	**	4
MATH	1610	1620	Calculus I & II.....	4	4
ENGL	2200		Great Books I.....	3	**
<b>GEOL</b>	<b>2010</b>		<b>Min &amp; Opt Cryst.....</b>	<b>5</b>	<b>**</b>
<b>GEOL</b>	<b>2050</b>		<b>Ing &amp; Met Petrol.....</b>	<b>**</b>	<b>4</b>
			Elective.....	**	3
			<b>TOTAL HOURS — 16</b>	<b>16</b>	<b>15</b>
<b>JR</b>					
PHYS	1500	1510	Gen. Physics I-II & Labs (1501 & 1511).....	4	4
			Core Social Science Group 1.....	**	3
			Core Fine Arts.....	3	**
			Technical Elective.....	3	**
<b>GEOL</b>	<b>3200</b>		<b>Principle Paleont.....</b>	<b>3</b>	<b>**</b>
<b>GEOL</b>	<b>3400</b>		<b>Structural Geology.....</b>	<b>**</b>	<b>4</b>
<b>GEOL</b>			<b>Elective.....</b>	<b>3</b>	<b>4</b>
			<b>TOTAL HOURS — 16</b>	<b>16</b>	<b>15</b>

**SUMMER**

<b>GEOL</b>	<b>3650</b>		<b>Field Camp.....</b>	<b>6</b>	
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<b>SR</b>					
PHIL			1010 or 1020.....	3	**
ECON	2020		Microeconomics.....	**	3
ENGL	2210		Great Books II.....	**	3
			Technical Elective.....	4	**
<b>GEOL</b>	<b>4010</b>		<b>Sed Petrol.....</b>	<b>3</b>	<b>**</b>
<b>GEOL</b>	<b>4110</b>		<b>Stratigraphy.....</b>	<b>**</b>	<b>3</b>
<b>GEOL</b>			<b>Elective.....</b>	<b>4</b>	<b>4</b>
			Elective.....	**	3
			<b>TOTAL HOURS — 14</b>	<b>14</b>	<b>16</b>

**TOTAL HOURS — 126**

Technical Elective - see adviser for approved course listing.  
 GEOL Elective - see adviser for approved course listing.  
 Students either pass the computer competency test or take COMP 1000 as one of their electives.

Laboratory Technology and Medical Technology

These curricula, leading to the degree of Bachelor of Science in Laboratory Technology or Bachelor of Science in Medical Technology, prepare students for medical laboratory careers in fields such as public health, bacteriology, environmental testing, industrial quality control, research and forensic science. Graduates may choose to qualify as certified medical technologists. This is accomplished by successfully completing a 12-month training period (rotating hospital internship) in an accredited School of Medical Technology and passing a national certifying examination.

**Curriculum in Laboratory Technology (LABT)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
BIOL		1020	Principles of Biology.....	**	4
ENGL	1100	1120	English Composition I & II.....	3	3
HIST	1010	1020	World History.....	3	3
MATH	1610		Calculus I.....	4	**
<b>CHEM</b>	<b>1110</b>	<b>1120</b>	<b>General Chemistry I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>1111</b>	<b>1121</b>	<b>General Chemistry Lab I &amp; II.....</b>	<b>1</b>	<b>1</b>
<b>LABT</b>	<b>1010</b>		<b>Orientation.....</b>	<b>1</b>	<b>**</b>
STAT		2510	Statistics for Biology & Health Science.....	**	3
			<b>TOTAL HOURS — 15</b>	<b>15</b>	<b>17</b>

<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
PHIL	1030		Ethics & Health Science.....	3	**
BIOL	2500	2510	Human Anatomy & Physiology I & II.....	4	4
<b>BIOL</b>	<b>3200</b>		<b>General Microbiology.....</b>	<b>**</b>	<b>4</b>
<b>CHEM</b>	<b>1200</b>		<b>Chemical Application.....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>	<b>2070</b>	<b>2080</b>	<b>Organic Chemistry I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>2071</b>	<b>2081</b>	<b>Organic Chemistry Lab I &amp; II.....</b>	<b>1</b>	<b>1</b>
			<b>TOTAL HOURS — 15</b>	<b>15</b>	<b>15</b>

<b>JR</b>					
			Core Fine Arts.....	**	3
			Core Social Science Group 1.....	**	3
BIOL	4200		Clinical Microbiology.....	4	**
BIOL	3000		Genetics.....	4	**
<b>BCHE</b>	<b>6180</b>		<b>Biochemistry I.....</b>	<b>3</b>	<b>**</b>
<b>LABT</b>	<b>4010</b>		<b>Hematology.....</b>	<b>5</b>	<b>**</b>
<b>CHEM</b>	<b>3050</b>		<b>Analytical Chemistry.....</b>	<b>**</b>	<b>3</b>
<b>CHEM</b>	<b>3051</b>		<b>Analytical Chemistry Lab.....</b>	<b>**</b>	<b>1</b>
			Elective.....	**	6
			<b>TOTAL HOURS — 16</b>	<b>16</b>	<b>16</b>

<b>SR</b>			Core Social Science Group 2.....	3	**
			Technical Elective.....	4	4
<b>LABT</b>	<b>4250</b>		<b>Clinical Biochemistry Instrument.....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>6500</b>	<b>Immunology.....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>		<b>6501</b>	<b>Immunology Lab.....</b>	<b>**</b>	<b>2</b>
<b>LABT</b>		<b>4050</b>	<b>Clinical Immunohematology/Parasit.....</b>	<b>**</b>	<b>5</b>
<b>CHEM</b>	<b>2200</b>		<b>Chemical Application.....</b>	<b>**</b>	<b>1</b>
				<b>12</b>	<b>14</b>
			<b>TOTAL HOURS — 120</b>		

Technical Elective: see adviser for approved course listing.

**Curriculum in Medical Technology (MEDT)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
<b>BIOL</b>		1020	Principles of Biology.....	**	4
<b>ENGL</b>	1100	1120	English Composition I & II.....	3	3
<b>HIST</b>	1010	1020	World History.....	3	3
<b>MATH</b>	1610		Calculus I.....	4	**
<b>CHEM</b>	<b>1110</b>	<b>1120</b>	<b>General Chemistry I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>1111</b>	<b>1121</b>	<b>General Chemistry Lab I &amp; II.....</b>	<b>1</b>	<b>1</b>
<b>LABT</b>	<b>1010</b>		<b>Orientation.....</b>	<b>1</b>	<b>**</b>
				<b>15</b>	<b>14</b>
<b>SO</b>					
<b>PHIL</b>	1030		Ethics & Health Science.....	3	**
<b>PHYS</b>	1500		General Physics I Lab (1501).....	4	**
			Core Social Science Group 1.....	**	3
<b>BIOL</b>	2500	2510	Human Anatomy & Physiology I & II.....	4	4
<b>BIOL</b>		<b>3200</b>	<b>General Microbiology.....</b>	<b>**</b>	<b>4</b>
<b>CHEM</b>	<b>1200</b>		<b>Chemical Application.....</b>	<b>1</b>	<b>**</b>
<b>CHEM</b>	<b>2070</b>	<b>2080</b>	<b>Organic Chemistry I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>CHEM</b>	<b>2071</b>	<b>2081</b>	<b>Organic Chemistry Lab I &amp; II.....</b>	<b>1</b>	<b>1</b>
				<b>16</b>	<b>15</b>
<b>JR</b>					
<b>ENGL</b>	2200	2210	Great Books I & II.....	3	3
			Core Fine Arts.....	**	3
<b>COMM</b>	1000		Public Speaking.....	3	**
<b>STAT</b>	2510		Statistics for Biology & Health Science.....	3	**
<b>BIOL</b>		3000	Genetics.....	**	4
<b>BIOL</b>		<b>6500</b>	<b>Immunology.....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>		<b>6501</b>	<b>Immunology Lab.....</b>	<b>**</b>	<b>2</b>
<b>CHEM</b>		<b>2200</b>	<b>Chemical Application.....</b>	<b>**</b>	<b>1</b>
<b>CHEM</b>	<b>3050</b>		<b>Analytical Chemistry.....</b>	<b>3</b>	<b>**</b>
<b>CHEM</b>	<b>3051</b>		<b>Analytical Chemistry Lab.....</b>	<b>1</b>	<b>**</b>
			Elective.....	3	**
				<b>16</b>	<b>16</b>
<b>SR</b>					
			Core Social Science Group 2.....	**	3
<b>BIOL</b>	4200		Clinical Microbiology.....	4	**
<b>BCHE</b>	<b>6180</b>	<b>6190</b>	<b>Biochemistry I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>LABT</b>	<b>4010</b>		<b>Hematology.....</b>	<b>5</b>	<b>**</b>
<b>LABT</b>		<b>4050</b>	<b>Clinical Immunohematology/Parasit.....</b>	<b>**</b>	<b>5</b>
<b>LABT</b>		<b>4250</b>	<b>Clinical Biochemistry/Instrument.....</b>	<b>**</b>	<b>4</b>
			Elective.....	3	**
				<b>15</b>	<b>15</b>
			<b>Professional Year</b>		
			Clinical Internship.....	22	hours
			<b>TOTAL HOURS — 144</b>		

**Mathematics**

This curriculum prepares students for graduate study and careers as mathematicians.

**Curriculum in Mathematics (MATH)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
<b>ENGL</b>	1100	1120	English Composition I & II.....	3	3
			Core Philosophy.....	3	**
			Core History.....	3	3
			Core/Natural Science.....	4	4
<b>MATH</b>	<b>1610</b>	<b>1620</b>	<b>Calculus I &amp; II.....</b>	<b>4</b>	<b>4</b>
<b>COMP</b>		1200	(see adviser before selecting section).....	**	2
				<b>17</b>	<b>16</b>
<b>SO</b>					
			Core Social Science Group 1 & 2.....	3	3
<b>ENGL</b>	2200	2210	Great Books.....	3	3
<b>MATH</b>	<b>2630</b>		<b>Calculus III.....</b>	<b>4</b>	<b>**</b>
<b>MATH</b>		<b>2650</b>	<b>Linear Differential Equations.....</b>	<b>**</b>	<b>3</b>
<b>MATH</b>	<b>2660</b>		<b>Topics in Linear Algebra.....</b>	<b>3</b>	<b>**</b>
<b>MATH</b>		<b>3100</b>	<b>Introduction to Advanced Math.....</b>	<b>**</b>	<b>3</b>
			Elective.....	3	3
				<b>16</b>	<b>15</b>

<b>JR</b>			Core Fine Arts.....	**	3
			Foreign Language (see adviser).....	4	4
<b>COMM</b>	1000		Public Speaking.....	3	**
<b>MATH</b>	<b>6200</b>	<b>6210</b>	<b>Analysis I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>MATH</b>	<b>6310</b>	<b>6320</b>	<b>Introduction to Abstract Algebra I &amp; II... ..</b>	<b>3</b>	<b>3</b>
			Elective.....	3	3
				<b>16</b>	<b>16</b>

<b>SR</b>			<b>Applied Math Requisite.....</b>	<b>3</b>	<b>**</b>
			<b>Introduction to Topology.....</b>	<b>3</b>	<b>**</b>
			<b>Math Requisite.....</b>	<b>3</b>	<b>9</b>
			<b>Elective.....</b>	<b>3</b>	<b>3</b>
				<b>12</b>	<b>12</b>

**TOTAL HOURS - 120**

Math Requisite: see adviser for approved course listing  
 Applied Math Requisite: see adviser for approved course listing.  
 Core/Nature Science: see adviser for approved course listing.

**Applied Mathematics**

This is a curriculum suitable for those preparing for graduate work in mathematics as well as for those anticipating careers supported by significant applied mathematics.

An important feature is the option for the student to concentrate, by means of technical electives, on an area to which mathematics can be applied: one of the traditionally allied fields, such as engineering, physical science or computer science; or the more recently allied areas such as the biological, behavioral or managerial sciences.

Students who desire more flexibility or emphasis on the liberal arts should pursue the MATH curriculum.

**Curriculum in Applied Mathematics (AMTH)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
<b>ENGL</b>	1100	1120	English Composition I & II.....	3	3
			Core Philosophy.....	3	**
			Core History.....	3	3
			Core/Natural Science.....	4	4
<b>MATH</b>	<b>1610</b>	<b>1620</b>	<b>Calculus I &amp; II.....</b>	<b>4</b>	<b>4</b>
<b>COMP</b>		1200	(see adviser before selecting section).....	**	2
				<b>17</b>	<b>16</b>
<b>SO</b>					
			Core Social Science Group 1 & 2.....	3	3
<b>ENGL</b>	2200	2210	Great Books.....	3	3
<b>MATH</b>	<b>2630</b>		<b>Calculus III.....</b>	<b>4</b>	<b>**</b>
<b>MATH</b>		<b>2650</b>	<b>Linear Differential Equations.....</b>	<b>**</b>	<b>3</b>
<b>MATH</b>	<b>2660</b>		<b>Topics in Linear Algebra.....</b>	<b>3</b>	<b>**</b>
<b>MATH</b>		<b>3100</b>	<b>Introduction to Advanced Math.....</b>	<b>**</b>	<b>3</b>
			Elective.....	3	3
				<b>16</b>	<b>15</b>

<b>JR</b>			Core Fine Arts.....	**	3
			Public Speaking.....	3	**
<b>MATH</b>	<b>6200</b>	<b>6210</b>	<b>Analysis I &amp; II.....</b>	<b>3</b>	<b>3</b>
<b>MATH</b>	<b>6630</b>	<b>6640</b>	<b>Numerical Analysis I &amp; II.....</b>	<b>3</b>	<b>3</b>
			<b>Group Requisite.....</b>	<b>3</b>	<b>3</b>
			Elective.....	4	4
				<b>16</b>	<b>16</b>

<b>SR</b>			<b>Math Modeling: Continuous.....</b>	<b>3</b>	<b>**</b>
<b>MATH</b>	<b>6000</b>		<b>Probability &amp; Stochastic Proc I.....</b>	<b>3</b>	<b>**</b>
<b>MATH</b>	<b>6670</b>		<b>Math Requisite.....</b>	<b>3</b>	<b>9</b>
			<b>Group Requisite.....</b>	<b>3</b>	<b>**</b>
			Elective.....	**	3
				<b>12</b>	<b>12</b>

**TOTAL HOURS - 120**

Math Requisite: see adviser for approved course listing  
 Group Requisite: see adviser for approved course listing.

**Applied Discrete Mathematics**

This curriculum prepares students for graduate work in mathematics or theoretical computer science, and for careers in industry supported by modern applied mathematics dealing with problems in graph theory, operations research, discrete optimization, computer science, communications and information sciences.

**Curriculum in Applied Discrete Mathematics (ADSM)**

FR	F	S		F	S
ENGL	1100	1120	English Composition I & II .....	3	3
			Core Science (for science majors) .....	4	4
			Core History .....	3	3
COMP		1200	Introduction to Computer Engr. & Sci. ....	**	2
MATH	1610	1620	Calculus I & II .....	4	4
				<b>14</b>	<b>16</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II .....	3	3
			Core Social Science Group 1 & 2 .....	3	3
			Core Philosophy .....	3	**
			Core Fine Arts .....	**	3
COMP	2000		Programming with HTML & Java .....	3	**
COMP		3000	Object Oriented Program Engr. & Sci. ....	**	3
MATH	2630		Calculus .....	4	**
MATH		2660	Topics in Linear Algebra .....	**	3
				<b>16</b>	<b>15</b>
<b>JR</b>					
ADMH	3710		Discrete Math .....	3	**
ADMH	6170		Finite Fields .....	3	**
ADMH		6200	Computer Algebra .....	**	3
ADMH	6750		Graph Theory .....	3	**
STAT		3600	Probability & Statistics I .....	**	3
			Applied Analysis Elective .....	**	3
			Discrete Math Elective .....	3	3
			Interdisciplinary Elective .....	3	3
				<b>15</b>	<b>15</b>
<b>SR</b>					
			Applied Analysis Elective .....	3	**
			Discrete Elective .....	6	3
			Math Elective .....	**	3
			Interdisciplinary Elective .....	3	6
			Elective .....	3	2
				<b>15</b>	<b>14</b>
			<b>TOTAL HOURS - 120</b>		

Applied Analysis Elective/Discrete Elective/Math Elective/Interdisciplinary Elective: see adviser for approved course listing.

**Microbiology**

This major is for students who wish to pursue careers in one of the various sub-disciplines of the science or for those preparing for professional degree programs in medicine or veterinary medicine. Required courses provide a strong and diverse background. Students have the opportunity through selection of elective courses to concentrate on special areas of interest, including biotechnology, microbial physiology and genetics and environmental, industrial and health-related aspects of microbiology.

**Curriculum in Microbiology (MICB)**

FR	F	S		F	S
BIOL	1020		Principles of Biology .....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English Composition I & II .....	3	3
CHEM	1030	1040	Fund of Chemistry I & II .....	3	3
CHEM	1031	1041	Fund of Chemistry I & II Lab .....	1	1
MATH	1610	1620	Calculus I & II .....	4	4
				<b>15</b>	<b>15</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I .....	3	3
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511) ..	4	4
CHEM	2070	2080	Organic Chemistry I & II .....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab .....	1	1
BIOL	3000		Genetics .....	4	**
BIOL		3200	General Microbiology .....	**	4
				<b>15</b>	<b>15</b>
<b>JR</b>					
			Core History I & II .....	3	3
BIOL	4100		Cell Biology .....	**	3
BCHE	6180	6190	Biochemistry I & II .....	3	3
BCHE	6181		Biochemistry I & II Lab .....	1	**
BIOL	4200		Clinical Microbiology .....	4	**
BIOL	4210		Microbial Physiology .....	3	**
BIOL		4220	Introductory Molecular Genetics .....	**	4
			Elective .....	3	3
				<b>17</b>	<b>16</b>

**SR**

			Core Philosophy .....	**	3
			Core Fine Arts .....	**	3
			Core Social Science Group 1 & 2 .....	3	3
BIOL		4230	Virology .....	**	3
BIOL	4950		Undergraduate Seminar .....	1	**
BIOL	6500		Immunology .....	3	**
BIOL	6501		Immunology Lab .....	2	**
			Biology Elective .....	3	3
			Elective .....	3	**
			<b>TOTAL HOURS - 123</b>		<b>15 15</b>

Students either pass the computer competency test or take COMP 1000 as one of their electives.

**Curriculum in Molecular Biology (MOLB)**

FR	F	S		F	S
BIOL	1020		Principles of Biology .....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English Composition I & II .....	3	3
CHEM	1030	1040	Fund of Chemistry I & II .....	3	3
CHEM	1031	1041	Fund of Chemistry I & II Lab .....	1	1
MATH	1610	1620	Calculus I & II .....	4	4
				<b>15</b>	<b>15</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I .....	3	3
PHYS	1500	1510	General Physics I & II & Lab (1501, 1511) ..	4	4
CHEM	2070	2080	Organic Chemistry I & II .....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab .....	1	1
BIOL		3000	Genetics .....	**	4
BIOL	3200		General Microbiology .....	4	**
				<b>15</b>	<b>15</b>
<b>JR</b>					
			Core History .....	3	3
			Core Fine Arts .....	3	**
			Core Philosophy .....	**	3
			Cell Biology .....	3	**
BIOL	4100		Microbial Physiology .....	3	**
BIOL	4210		Introduction to Molecular Genetics .....	**	4
BIOL		4320	Gene Expression & Rec DNA Lab .....	**	2
BIOL		6521	Elective .....	3	3
				<b>15</b>	<b>15</b>
<b>SR</b>					
			Social Science Core .....	3	3
BCHE	6180	6190	Biochemistry I & II .....	3	3
BCHE	6181	6191	Biochemistry I & II Lab .....	1	1
BIOL	4950	4950	Undergraduate Seminar .....	1	1
BIOL	4980	4980	Undergraduate Research .....	3	3
			Biol. Elective/Molecular Biology Elective ..	4	4
				<b>15</b>	<b>15</b>
			<b>TOTAL HOURS - 120</b>		

Biology Electives: see adviser for approved course listing. Students either pass the computer competency test or take COMP 1000 as one of their electives.

**Physics**

Physics majors acquire a firm foundation for careers in physics and related fields and excellent preparation for further study. Through the judicious use of electives, this curriculum provides not only a thorough understanding of physics, but also the ability to solve problems in other fields of interest to the student.

**Curriculum in Physics (PHYS)**

FR	F	S		F	S
ENGL	1100	1120	English Composition I & II .....	3	3
MATH	1610	1620	Calculus .....	4	4
PHYS	1600	1610	Physics I & II .....	4	4
			Core Philosophy .....	**	3
			Fine Art .....	3	**
				<b>14</b>	<b>14</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II .....	3	3
COMM	1000		Public Speaking .....	3	**
			History .....	3	3
MATH	2630		Calculus III .....	4	**
MATH		2650	Differential Equations .....	**	3
PHYS	2200		Intro. Quantum Physics & Relativity .....	3	**
PHYS		2300	Physics Laboratory Skills .....	**	2
PHYS		2100	Intermediate Mechanics .....	**	3
				<b>16</b>	<b>14</b>

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JR			Social Science I & II.....	3	3
			Professional Elective*.....	**	3
PHYS	3100		Intermediate E & M.....	3	**
PHYS		3200	Statistical Thermodynamics.....	**	3
PHYS	4100		Fundamentals of Quantum Mech.....	3	**
			Sci Elective-Chem/Biolog/Geol.....	4	4
			Elective.....	3	3
				16	16
SR			Fund Experiments in Physics.....	2	**
PHYS	4200		Professional Elective *.....	3	7
			Physics Elective.....	**	3
			Elective.....	9	6
				14	16
			<b>TOTAL HOURS - 120</b>		

\* See adviser for approved courses.

JR			PHYS	1500	1510	General Physics I & II/Labs (1501, 1511)...	4	4
						Social Science Core.....	**	3
			BIOL		3060	Ecology.....	**	4
			BIOL	4100		Cell Biology.....	3	**
			BIOL	4101		Cell Biology Lab.....	2	**
			BIOL		4410	Vertebrate Development.....	**	5
						4010 or 4020.....	4	**
						Elective.....	3	**
							16	16
SR						Core Fine Arts.....	3	**
			COMM	1000		Public Speaking.....	**	3
				3010		Statistics for Engr. & Sci.....	**	3
			BIOL		6240	Animal Physiology.....	**	4
						Biology Elective.....	11	4
							14	14
						<b>TOTAL HOURS - 123</b>		

Biology Electives: see adviser for approved course listing.  
Students either pass the computer competency test or take COMP 1000 as one of their electives.

Zoology

This curriculum prepares students for graduate study and a variety of careers in animal biology. The student has the choice of several options depending on the student's particular interest.

Curriculum in Zoology (ZOOL)

FR	F	S		F	S			
BIOL	1020		Principles of Biology.....	4	**			
BIOL		1030	Organismal Biology.....	**	4			
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3			
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab.....	1	1			
ENGL	1100	1120	English Composition I & II.....	3	3			
			Core History.....	3	3			
				14	14			
SO			Calculus I & II.....	4	4			
MATH	1610	1620	Great Books I & II.....	3	3			
ENGL	2200	2210	Social Science Core.....	**	3			
CHEM	2070	2080	Organic Chemistry I & II.....	3	3			
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1			
BIOL	3000		Genetics.....	4	**			
BIOL		3030	Evolution & Systematics.....	**	3			
				15	17			
JR			PHYS	1500	1510	General Physics I & II & Labs (1501, 1511).....	4	4
						Social Science Core.....	3	**
						Core Fine Arts.....	**	3
			COMM	1000		Public Speaking.....	3	**
			BIOL	3060		Ecology.....	4	**
			BIOL		4100	Cell Biology.....	**	3
			BIOL		6240	Animal Physiology.....	**	4
						Biology Elective.....	4	**
						Elective.....	**	3
							18	17
SR						Core Philosophy.....	**	3
STAT	3010					Statistics for Engr. & Sci.....	3	**
						Biology Elective.....	11	11
							14	14
						<b>TOTAL HOURS - 123</b>		

Biology Electives: see adviser for approved course listing.  
Students either pass the computer competency test or take COMP 1000 as one of their electives.

Zoology/Cellular Biology/Physiology Track (ZOOL, CBPS)

FR	F	S		F	S
BIOL	1020		Principles of Biology.....	4	**
BIOL		1030	Organismal Biology.....	**	4
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab.....	1	1
ENGL	1100	1120	English Composition I & II.....	3	3
			Core History.....	3	3
			Core Philosophy.....	**	3
				14	17
SO			Calculus I & II.....	4	4
MATH	1610	1620	Great Books I & II.....	3	3
ENGL	2200	2210	Social Science Core.....	**	3
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
BIOL	3000		Genetics.....	4	**
BIOL		3030	Evolution & Systematics.....	**	3
				15	17

Zoology/Conservation & Biodiversity Track (ZOOL, CONS)

FR	F	S		F	S			
BIOL	1020		Principles of Biology.....	4	**			
BIOL		1030	Organismal Biology.....	**	4			
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3			
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab.....	1	1			
ENGL	1100	1120	English Composition I & II.....	3	3			
MATH	1610		Calculus I.....	4	**			
			Core History.....	**	3			
			Core Social Science.....	**	3			
				15	17			
SO			ENGL	2200	2210	Great Books I & II.....	3	3
						Core History.....	3	**
						Core Philosophy.....	**	3
						Core Social Science.....	3	**
						Core Fine Arts.....	3	**
			BIOL		3000	Genetics.....	**	4
			BIOL		3060	Ecology.....	**	4
			CHEM	2070		Organic Chemistry I.....	3	**
			PHYS		1500	General Physics Lab (1501).....	**	4
							15	18
JR			BIOL	3030		Evolution & Systematics.....	3	**
			BIOL	4090		Conservation Biology.....	3	**
			BIOL	4010	4020	Vertebrate & Invert. Biodiversity.....	4	4
			BIOL		6240	Animal Physiology.....	**	4
			BIOL		4100	Cell Biology.....	3	**
						Diversity Elective.....	**	4
						Elective.....	**	3
							13	15
SR			BIOL		6120	Systematic Botany.....	**	4
WILD	3280					Principles of Wildlife Management.....	3	**
WILD	3281					Principles of Wildlife Management Lab.....	1	**
						Diversity Elective.....	4	4
						Ecology Elective.....	3	**
			ENTM	3040		General Entomology.....	4	**
						Public Speaking.....	**	3
							15	11
						<b>TOTAL HOURS - 122</b>		

Students either pass the computer competency test or take COMP 1000 as one of their electives.

Zoology/Ecology, Evolution & Behavior Track (ZOOL, ECEV)

FR	F	S		F	S
BIOL	1020		Principles of Biology.....	4	**
BIOL		1030	Organismal Biology.....	**	4
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab.....	1	1
ENGL	1100	1120	English Composition I & II.....	3	3
MATH	1610	1620	Calculus I & II.....	4	4
			Core Social Science.....	**	3
				15	18

<b>SO</b>					
ENGL	2200	2210	Great Books I & II .....	3	3
			Core History .....	3	**
			Core Philosophy .....	**	3
			Core Social Science .....	3	**
			Core Fine Arts .....	3	**
<b>BIOL</b>		<b>3000</b>	<b>Genetics</b> .....	**	4
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology</b> .....	**	3
CHEM	2070		Organic Chemistry .....	3	**
PHYS	1500		General Physics Lab (1501) .....	**	4
				15	17
<b>JR</b>					
COMM	1000		Public Speaking .....	3	**
STAT	2510		Statistics for Engr. & Sci. ....	3	**
<b>BIOL</b>		<b>3030</b>	<b>Evolution &amp; Systematics</b> .....	**	3
<b>BIOL</b>		<b>3060</b>	<b>General Ecology</b> .....	4	**
<b>BIOL</b>		<b>4020</b>	<b>Vertebrate &amp; Invert. Biodiversity</b> .....	4	4
<b>BIOL</b>		<b>6240</b>	<b>Animal Physiology</b> .....	**	4
			Elective .....	**	3
				14	14
<b>SR</b>					
			Core History .....	3	**
<b>BIOL</b>		<b>6650</b>	<b>Ethology</b> .....	4	**
<b>BIOL</b>		<b>6140</b>	<b>Plant Ecology</b> .....	**	4
			<b>Ecology Elective</b> .....	3	**
			<b>Anat/Cell Phys Elective</b> .....	**	7
			<b>Diversity Elective</b> .....	4	4
				14	15

TOTAL HOURS - 122

Anat/Cell/Phy Elective: see adviser for approved course listing.

Diversity Elective: see adviser for approved course listing.

Students either pass the computer competency test or take COMP 1000 as one of their electives.

**Curriculum in Marine Biology (MARB)**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
BIOL	1020		Principles of Biology .....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English Composition I & II .....	3	3
			Core Social Sciences .....	3	3
MATH	1610	1620	Calculus I & II .....	4	4
				14	14
<b>SO</b>					
CHEM	1030	1040	Fundamental Chemistry I & II .....	3	3
CHEM	1031	1041	Fundamental Chemistry I & II Lab .....	1	1
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511) .....	4	4
ENGL		2200	Great Books I .....	**	3
<b>BIOL</b>		<b>3000</b>	<b>Genetics</b> .....	4	**
<b>BIOL</b>		<b>3060</b>	<b>Ecology</b> .....	**	4
				12	15
<b>JR</b>					
HIST	1010	1020	World History .....	3	3
			<b>Biology Elective</b> .....	**	7
CHEM	2070	2080	Organic Chemistry I & II .....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab .....	1	1
STAT	3010		Statistics for Engr. & Sci. ....	3	**
ENGL	2210		Great Books II .....	3	**
				13	14

**SUMMER MARINE LAB \*\*\***

**Marine Botany or Oceanography or Marine Geology ..... 8**

<b>SR</b>					
			Core Fine Arts .....	3	**
			Core Philosophy .....	**	3
COMM		1000	Public Speaking .....	**	3
<b>BIOL</b>		<b>4010</b>	<b>Invertebrate Biodiversity</b> .....	4	**
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology</b> .....	3	**
<b>BIOL</b>		<b>4101</b>	<b>Cell Biology Lab</b> .....	2	**
<b>BIOL</b>		<b>6240</b>	<b>Animal Physiology</b> .....	**	4
			Elective .....	**	3
				12	13

**SUMMER MARINE LAB \*\*\***

**Adv Electives in Marine Science..... 8**

TOTAL HOURS - 123

Summer Marine Lab - see adviser for approved course listing.

Biology Elective - see adviser for approved course listing.

Students either pass the computer competency test or take COMP 1000 as one of their electives.

**Curriculum in Biomedical Sciences**

<b>FR</b>	<b>F</b>	<b>S</b>		<b>F</b>	<b>S</b>
ENGL	1100	1120	English Composition I & II .....	3	3
MATH	1610		Calculus I .....	4	**
HIST		1010	World History .....	**	3
CHEM	1110	1120	General Chemistry I & II .....	3	3
CHEM	1111	1121	General Chemistry I & II Lab .....	1	1
SCMH	1990		Prehealth Orientation .....	1	**
<b>BIOL</b>	<b>1020</b>		<b>Principles of Biology</b> .....	4	**
<b>BIOL</b>		<b>1030</b>	<b>Organismal Biology</b> .....	**	4
				16	14
<b>SO</b>					
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511) .....	4	4
ENGL	2200	2210	Great Books I & II .....	3	3
HIST	1020		World History .....	3	**
CHEM	2070	2080	Organic Chemistry I & II .....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab .....	1	1
COMM	1000		Public Speaking .....	3	**
<b>BIOL</b>		<b>3000</b>	<b>Genetics</b> .....	**	4
				17	15
<b>JR</b>					
PHIL		1030	Ethics & Health Science .....	**	3
PSYC	1000		Introduction to Psychology .....	3	**
			Core Fine Arts .....	3	**
			Core Social Science .....	**	3
STAT	2510		Statistics for Biology & LS .....	3	**
<b>BIOL</b>	<b>3200</b>		<b>Microbiology</b> .....	4	**
<b>BIOL</b>		<b>4000</b>	<b>Histology</b> .....	**	4
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology</b> .....	**	3
<b>BIOL</b>		<b>4101</b>	<b>Cell Biology Lab</b> .....	**	2
<b>BIOL</b>	<b>4410</b>		<b>Vertebrate Development</b> .....	5	**
				18	15
<b>SR</b>					
<b>BCHE</b>	<b>6180</b>	<b>6190</b>	<b>Biochemistry I &amp; II</b> .....	3	3
<b>BIOL</b>	<b>3010</b>		<b>Comparative Anatomy</b> .....	4	**
<b>BIOL</b>	<b>6500</b>		<b>Immunology</b> .....	3	**
<b>BIOL</b>		<b>6600</b>	<b>Mammalian Physiology</b> .....	**	6
<b>BIOL</b>			<b>Special Problems</b> .....	2	**
			Electives .....	2	4
				14	13

TOTAL HOURS - 122

It is recommended that a student take the equivalent of one year of a foreign language or CHEM 3160

Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Professional Curricula**

Pre-Health professional curricula are offered in pre-dentistry, pre-medicine, pre-optometry, pre-physical therapy, pre-pharmacy and pre-veterinary medicine. Advisers are available in each curriculum to guide the students concerning admissions requirements to the professional schools. The department in which students major will advise them where applicable. Completion of these curricula does not assure admission to a professional school. Competition for admission to professional schools is keen; the number of qualified applicants exceeds the number of places available.

**Pre-Dentistry and Pre-Medicine**

These programs are designed to prepare students for medical and dental schools and lead to a Bachelor of Science degree in one of several majors offered through the College. The requirements are very exacting and demand high scholastic competence and performance.

Students in pre-dentistry or pre-medicine should take the national Dental Aptitude Test or the Medical College Admission Test at least a year in advance of the date of entry to professional school, and follow with applications to the professional schools of their choice. Early in the junior year, the student should seek information from the chairman of the Pre-Health Advisory Committee concerning procedures to follow to obtain the necessary committee evaluation and recommendation to professional school. Forms and instructions are available in the office of the Dean of Sciences and Mathematics. Most American medical schools recommend that medical and dental school applicants have (1) an academic year each of freshman

biology, general chemistry, organic chemistry, and physics; (2) breadth in the educational experience; and (3) in-depth experience in a single discipline. Auburn University students accomplish the above by enrolling in a core of courses as outlined in the following curriculum model. Each student then elects a major from the College of Sciences and Mathematics. The College offers majors in biomedical sciences, chemistry, microbiology, physics and zoology. Students should confer with the College for specific course requirements. Students may also choose to major in a curriculum in another college or school, but they must work with the assistant dean for Pre-Health Professions in COSAM for information on the application process.

**Curriculum in Pre-Dentistry and Pre-Medicine**

FR	F	S		F	S
ENGL	1100	1120	English Composition I & II.....	3	3
MATH	1610		Calculus I .....	4	**
HIST		1010	World History.....	**	3
CHEM	1110	1120	General Chemistry I & II.....	3	3
CHEM	1111	1121	General Chemistry I & II Lab .....	1	1
SCMH	1990		Pre-Health Orientation .....	1	**
<b>BIOL</b>	<b>1020</b>		<b>Principles of Biology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>1030</b>	<b>Organismal Biology .....</b>	<b>**</b>	<b>4</b>
				<b>16</b>	<b>14</b>

<b>SO</b>					
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511)4	4	
HIST	1020		World History .....	3	**
ENGL	2200	2210	Great Books I & II.....	3	3
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
COMM	1000		Public Speaking.....	3	**
<b>BIOL</b>		<b>3000</b>	<b>Genetics .....</b>	<b>**</b>	<b>4</b>
				<b>17</b>	<b>15</b>

<b>JR</b>					
PHIL		1030	Ethics & Health Science.....	**	3
PSYC	1000		Introduction to Psychology .....	3	**
			Core Social Science.....	**	3
			Core Fine Arts.....	3	**
STAT	2510		Statistics for Biology & LS.....	3	**
<b>BIOL</b>	<b>3200</b>		<b>Microbiology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>4101</b>	<b>Cell Biology Lab.....</b>	<b>**</b>	<b>2</b>
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology .....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>	<b>4410</b>		<b>Vertebrate Development .....</b>	<b>5</b>	<b>**</b>
				<b>18</b>	<b>11</b>

At the end of the sophomore year, or in the fall of the junior year, the student must declare a major.  
Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Pre-Optometry**

This program leads to a Bachelor of Science degree and prepares students for the rigorous demands of American optometry schools.

Students must select a major in the College of Sciences and Mathematics or another college. The College offers majors in biomedical sciences, chemistry, microbiology, physics and zoology. Students should confer with the College for specific course requirements. Students may also choose to major in a curriculum in another college or school, but they must work with the assistant dean for Pre-Health Professions in COSAM for information on the application process.

Pre-Optometry students should write for an official bulletin from each of the professional schools of their choice during the freshman year and discuss with the Pre-Optometry adviser any special requirements of those schools. The requirements of most U.S. schools of optometry are covered in the suggested program below, either as required subjects or as electives. The student should take the Optometry Admission Test and make official application for admission to the professional schools about a year in advance of the expected date of matriculation.

**Curriculum in Pre-Optometry (POPT)**

FR	F	S		F	S
ENGL	1100	1120	English Composition I & II.....	3	3
MATH	1610		Calculus I .....	4	**
HIST		1010	World History.....	**	3
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab .....	1	1
SCMH	1990		Pre-Health Orientation .....	1	**
<b>BIOL</b>	<b>1020</b>		<b>Principles of Biology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>1030</b>	<b>Organismal Biology .....</b>	<b>**</b>	<b>4</b>
				<b>16</b>	<b>14</b>

<b>SO</b>					
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511)4	4	
HIST	1020		World History.....	3	**
ENGL	2200	2210	Great Books I & II.....	3	3
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
COMM	1000		Public Speaking.....	3	**
<b>BIOL</b>		<b>3000</b>	<b>Genetics .....</b>	<b>**</b>	<b>4</b>
				<b>17</b>	<b>15</b>

<b>JR</b>					
PHIL		1030	Ethics & Health Science.....	**	3
PSYC	1000		Introduction to Psychology .....	3	**
			Core Social Science.....	**	3
			Core Fine Arts.....	3	**
STAT	2510		Statistics for Biology & LS.....	3	**
<b>BIOL</b>	<b>3200</b>		<b>Microbiology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>4101</b>	<b>Cell Biology Lab.....</b>	<b>**</b>	<b>2</b>
<b>BIOL</b>		<b>4100</b>	<b>Cell Biology .....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>	<b>4410</b>		<b>Vertebrate Development .....</b>	<b>5</b>	<b>**</b>
				<b>18</b>	<b>11</b>

At the end of the sophomore year, or in the fall of the junior year, the student must declare a major.  
Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Pre-Physical Therapy**

This program prepares students applying to schools of physical therapy at the master's level and leads to a bachelor's degree in one of the majors offered in the College of Sciences and Mathematics or another college. The College offers majors in biomedical sciences, chemistry, microbiology, physics and zoology. Students should confer with the College for specific course requirements. Students may also choose to major in a curriculum in another college or school, but they must work with the assistant dean for Pre-Health Professions in COSAM for information on the application process. Students should write for an official bulletin from each of the professional schools of their choice during their freshman year and discuss with the assistant dean any special requirements of those schools.

**Curriculum in Pre-Physical Therapy (PPHS)**

FR	F	S		F	S
ENGL	1100	1120	English Composition I & II.....	3	3
MATH	1610		Calculus I .....	4	**
HIST		1010	World History I .....	**	3
CHEM	1030	1040	Fundamentals of Chemistry I & II.....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab .....	1	1
SCMH	1990		Pre-Health Orientation .....	1	**
<b>BIOL</b>	<b>1020</b>		<b>Principles of Biology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>1030</b>	<b>Organismal Biology .....</b>	<b>**</b>	<b>4</b>
				<b>16</b>	<b>14</b>

<b>SO</b>					
PHYS	1500	1510	Gen Physics I & II & Labs (1501 & 1511) ..	4	4
HIST	1020		World History II .....	3	**
ENGL	2200	2210	Great Books I & II.....	3	3
PSYC		1000	Introduction to Psychology .....	**	3
			Core Social Science.....	**	3
CHEM	2070		Organic Chemistry I .....	3	**
CHEM	2071		Organic Chemistry I Lab .....	1	**
COMM	1000		Public Speaking.....	3	**
<b>BIOL</b>		<b>3000</b>	<b>Genetics .....</b>	<b>**</b>	<b>4</b>
				<b>17</b>	<b>17</b>

<b>JR</b>					
PHIL		1030	Ethics & Health Science.....	**	3
			Core Fine Arts.....	3	**
STAT	2510		Statistics .....	3	**
PSYC	2120		Developmental Psychology .....	3	**
<b>BIOL</b>	<b>2500</b>	<b>2510</b>	<b>Anatomy &amp; Physiology I &amp; II .....</b>	<b>4</b>	<b>4</b>
<b>BIOL</b>	<b>3200</b>		<b>Microbiology .....</b>	<b>4</b>	<b>**</b>
			Psychology Elective .....	**	3
				<b>17</b>	<b>10</b>

At the end of the sophomore year, or in the fall of the junior year, the student must declare a major.  
Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Pre-Pharmacy**

This program meets the requirements for admission to the Auburn University School of Pharmacy, which is fully accredited by the American Council on Pharmaceutical Education. Complete information about the professional curriculum in pharmacy may be found in the School of Pharmacy section.

To be considered for admission, the applicant must complete the basic two-year requirements below and must have a 2.5 (C) GPA based on all courses attempted as well as a 2.5 (C) science index (GPA on the biological and physical science courses and mathematics). A grade of D in any required course will not be accepted.

**Curriculum in Pre-Pharmacy (PPHR)**

FR	F	S		F	S
HIST	1010	1020	World History.....	3	3
MATH	1610		Calculus I .....	3	**
ENGL	1110	1120	English Composition I & II .....	4	3
CHEM	1030	1040	Fundamental of Chemistry I & II .....	3	3
CHEM	1031	1041	Fundamental of Chemistry I & II Lab .....	1	1
			Core Fine Arts.....	**	3
BIOL	1020		Principles of Biology.....	4	**
PHIL	1030		Ethics & Health Sciences.....	*	3
			Elective.....	**	3
				<b>18</b>	<b>19</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
			Core Social Science Group 1 & 2.....	3	3
PHYS	1500		General Physics I & Lab (1501).....	4	**
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
STAT	2150		Statistics for Biology & Health Science.....	**	3
BIOL	2500		Anatomy/Physiology I.....	4	**
			Elective.....	**	3
				<b>18</b>	<b>16</b>

Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Pre-Veterinary Medicine**

Students in the Pre-Veterinary Medicine (PVET) curriculum must select a major by the end of their sophomore year. Students in Sciences and Mathematics may select microbiology (MICB, PVET) or zoology (ZOOL, PVET) as majors. Pre-Veterinary options in the College of Agriculture include animal and dairy science (ANDS, PVET) and poultry science (POUL, PVET). A pre-vet option in wildlife (WILD, PVET) sciences also exists in the School of Forestry and Wildlife Sciences. The minimum requirements for admission to the College of Veterinary Medicine at Auburn University are incorporated into the curriculum models for all these majors.

It is possible to gain admission to the College of Veterinary Medicine by completing only the minimum requirements listed. However, it is preferable to select a major and earn a baccalaureate degree. If a student is admitted to the College of Veterinary Medicine prior to completion of the full four years, he or she may obtain a B.S. degree by successfully completing the first three years of some of the Pre-Veterinary curricula and the first year of veterinary school. Students should consult their advisers regarding which curricula offer this option.

Application for admission to the College of Veterinary Medicine must be submitted to the Dean of that College. A minimum GPA of 2.5 is required for application; D grades in required courses are unacceptable. All minimum requirements, including courses repeated due to time limitations, must be completed by the end of the spring term preceding the date of admission, and all advanced required courses in physical and biological sciences (organic chemistry and physics) must have been completed within six calendar years prior to the anticipated entrance date. Competition for admission to the professional schools is keen with the number of qualified applicants exceeding the number of places available. For additional information, see College of Veterinary Medicine section and the Pre-Veterinary Medicine curricula in the College of Agriculture.

**Curriculum in Pre-Veterinary Medicine (PVET)**

FR	F	S		F	S
MATH	1150		Pre-Calculus Algebra & Trigonometry.....	4	**
			Core History .....	**	3
ENGL	1110	1120	English Composition I & II .....	3	3
BIOL	1020		Principles of Biology.....	4	**
BIOL		1030	Organismal Biology.....	**	4
CHEM	1030	1040	Fundamentals of Chemistry I & II .....	3	3
CHEM	1031	1041	Fund of Chemistry I & II Lab.....	1	1
			Elective.....	**	3
				<b>15</b>	<b>17</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
			Core History .....	3	**
			Core Philosophy.....	**	3
			Core Social Science.....	3	**
			Core Fine Arts.....	3	**
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
BIOL		3000	Genetics .....	**	4
				<b>16</b>	<b>14</b>
<b>JR</b>					
PHYS	1500	1510	General Physics I & II .....	4	4
			Core Social Science.....	**	3
BCHE	3200		Principles of Biochemistry.....	3	**
BIOL		3200	Microbiology .....	**	4
COMM	1000		Public Speaking.....	3	**
COMP		1000	Personal Computer Application.....	**	2
			Elective.....	3	**
				<b>13</b>	<b>13</b>

At the end of the sophomore year, or in the fall of the junior year, the student must declare a major.

**Curriculum in Microbiology**

**Pre-Veterinary Medicine Option (MICB, PVET)**

FR	F	S		F	S
BIOL	1020		Principles of Biology.....	4	**
BIOL		1030	Organismal Biology .....	**	4
ENGL	1100	1120	English Composition I & II .....	3	3
CHEM	1030	1040	Fundamentals of Chemistry I & II .....	3	3
CHEM	1031	1041	Fundamentals of Chemistry I & II Lab .....	1	1
			Core History .....	**	3
MATH	1610		Calculus I .....	4	**
				<b>15</b>	<b>14</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
PHYS	1500	1510	General Physics I & II .....	4	4
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
BIOL	3000		Genetics .....	4	**
BIOL		<b>3200</b>	<b>General Microbiology.....</b>	<b>**</b>	<b>4</b>
				<b>15</b>	<b>15</b>
<b>JR</b>					
			Core Social Science Group I & II.....	3	3
			Core Philosophy .....	**	3
			Core Fine Arts.....	**	3
			Core History .....	3	**
BIOL		4100	Cell Biology .....	**	3
BCHE	3200		Principles of Biochemistry.....	3	**
BIOL	<b>4200</b>		<b>Clinical Microbiology .....</b>	<b>4</b>	<b>**</b>
BIOL		<b>4220</b>	<b>Introductory Molecular Genetics .....</b>	<b>*</b>	<b>4</b>
BIOL	<b>4210</b>		<b>Microbiol Physiology .....</b>	<b>3</b>	<b>**</b>
BIOL		<b>4950</b>	<b>Undergraduate Seminar.....</b>	<b>**</b>	<b>1</b>
				<b>16</b>	<b>17</b>

Students who complete the above 6 semesters and successfully complete the first year of veterinary school may be awarded a B.S. in Microbiology. In the event the first year Veterinary College alternative is not followed, the indicated senior year courses must be successfully completed to receive the B.S. in Microbiology.

SR	F	S		F	S
BCHE	6180	6190	Biochemistry I & II.....	3	3
BCHE	6181		Biochemistry I Lab .....	1	**
BIOL		<b>4230</b>	<b>Virology .....</b>	<b>**</b>	<b>3</b>
BIOL	<b>6500</b>		<b>Immunology .....</b>	<b>3</b>	<b>**</b>
BIOL	<b>6501</b>		<b>Immunology Lab.....</b>	<b>2</b>	<b>**</b>
			<b>Biology Elective .....</b>	<b>3</b>	<b>3</b>
			ROTC/Free Elective.....	3	4
				<b>15</b>	<b>13</b>

Biology Electives - see adviser for approved course listing.

Student must either pass the computer competency test or take COMP 1000 as one of their electives.

**Curriculum in Zoology**

**Pre-Veterinary Medicine Option (ZOOL, PVET)**

FR	F	S		F	S
MATH	1610		Calculus I .....	4	**
ENGL	1100	1120	English Composition I & II.....	3	3
CHEM	1030	1040	Chemistry I & II .....	3	3
CHEM	1031	1041	Chemistry I & II Lab .....	1	1
			Core History .....	**	3
<b>BIOL</b>	<b>1020</b>		<b>Principles of Biology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>1030</b>	<b>Organismal Biology .....</b>	<b>**</b>	<b>4</b>
				<b>15</b>	<b>14</b>
<b>SO</b>					
ENGL	2200	2210	Great Books I & II.....	3	3
PHYS	1500	1510	General Physics I & II & Labs (1501, 1511)4	4	4
			Core Social Science Group I & II .....	3	3
CHEM	2070	2080	Organic Chemistry I & II.....	3	3
CHEM	2071	2081	Organic Chemistry I & II Lab.....	1	1
COMP	1000		Personal Computer Application.....	2	**
				<b>16</b>	<b>14</b>
<b>JR</b>					
			Core Fine Arts.....	**	3
			Core History .....	3	**
			Core Philosophy .....	**	3
BCHE	3200		Principles of Biochemistry.....	3	**
COMM	1000		Public Speaking.....	3	**
<b>BIOL</b>	<b>3000</b>		<b>Genetics .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>3030</b>	<b>Evolution and Systematics .....</b>	<b>**</b>	<b>3</b>
<b>BIOL</b>	<b>3060</b>		<b>Ecology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>		<b>4010</b>	<b>Invertebrate Biodiversity or .....</b>	<b>**</b>	<b>4</b>
<b>BIOL</b>		<b>4020</b>	<b>Vertebrate Biodiversity</b>		
			Elective.....	**	3
				<b>17</b>	<b>16</b>

Students who complete the above 6 semesters and successfully complete the first year of veterinary school may be awarded a B.S. in Zoology. In the event the first year Veterinary College alternative is not followed, the indicated senior year courses must be successfully completed to receive the B.S. in Zoology.

<b>SR</b>					
STAT	3010		Stat for Engr. & Sci .....	3	**
<b>BIOL</b>	<b>3200</b>		<b>Microbiology .....</b>	<b>4</b>	<b>**</b>
<b>BIOL</b>	<b>4100</b>		<b>Cell Biology .....</b>	<b>3</b>	<b>**</b>
<b>BIOL</b>	<b>6240</b>		<b>Animal Physiology .....</b>	<b>4</b>	<b>**</b>
			<b>Biology Elective .....</b>	<b>1</b>	<b>13</b>
			Elective.....	**	3
				<b>15</b>	<b>16</b>

Biology Elective - See adviser for approved course listing.