

**THE UNIVERSITY OF AKRON  
REQUIREMENTS FOR A B.S. IN BIOLOGY**

**I. University General Education Requirements**

- A. SPEECH - 3 credits.  
7600:105 Intro. to Public Speaking, 3 credits **OR** 7600:106 Eff. Oral Communication, 3 credits
- B. ENGLISH COMPOSITION - 7 credits.  
3300:111 English Composition I, 4 credits **AND** 3300:112 English Composition II, 3 credits
- C. PHYSICAL EDUCATION- 1 credit.  
5540:120-199 OR many other choices. See General Bulletin.
- D. SOCIAL SCIENCES - 6 credits. Select 2 courses for 6 credits from 2 different sets (Sets 1 - 7)

Set 1.	3250:100	Intro. to Economics	3 cr.	3870:150	Cultural Anthropology	4 cr.	
	3250:200	Prin. Microeconomics	3 cr.	5100:150	Democracy in Educ.	3 cr.	
	3250:244	Intro. to Eco. Analysis	3 cr.				
				Set 6.	3400:250	US History to 1877	4 cr.
Set 2.	3350:100	Intro. to Geography	3 cr.		3400:251	US History since 1877	4 cr.
				Set 7.	2040:241	Tech. of Human Values	2 cr.
Set 3.	3700:100	Govt. & Politics in US	4 cr.		3600:125	Theory and Evidence	3 cr.
	3700:150	World Politics & Govts	3 cr.		2040:243	Contemp. Global Issue	3 cr.
				Set 4.	3750:100	Intro. to Psychology	3 cr.
Set 5.	3850:100	Intro. to Sociology	4 cr.				

- E. **AREA STUDIES & CULTURAL DIVERSITY - 4 credits.** (Select any 2 courses). Must have Junior status, 64 credits.

3400:385	World Civ: China	2 cr.	2040:254	The Black Exp. 1619 to 1877	2 cr.
3400:386	World Civ: Japan	2 cr.	2040:255	The Black Exp. Since 1877	2 cr.
3400:387	World Civ: SE Asia	2 cr.	2040:256	Diversity in Am. Society	2 cr.
3400:388	World Civ: India	2 cr.	1810:201	Intro. Pan African Studies	3 cr.
3400:389	World Civ: Near East	2 cr.	3350:375	Geo. of Cultural Diversity	2 cr.
3400:390	World Civ: Africa	2 cr.	1840:300	Intro. to Women's Studies	3 cr.
3400:391	World Civ: Latin America	2 cr.	3005:300	Canadian Studies (not offered)	3 cr.
7600:325	Intercultural Communication	3 cr.	3230:251	Human Diversity	3 cr.

**F. HUMANITIES - 3 courses (10 credits total).**

- Required:** 3400:210 Humanities in Western Trad. I, 4 credits. (Prerequisite is English 112)  
- You must register for the lecture and a required discussion section.
- 6 additional credits:** Select 2 courses from 2 different sets (Sets 1-4).  
- 3400:210 Human. in Western Trad I is usually a prerequisite for all other humanities classes

Set 1 - Philosophy/Classics - Prereq 3400:210

3200:220	Intro. to Ancient World	3 cr.
3200:230	Sports & Society/ Greece	3 cr.
3600:101	Intro. to Philosophy	3 cr.
3600:120	Introduction to Ethics	3 cr.
3600:170	Introduction to Logic	3 cr.

Set 2 - Classic & Contemporary Literature - Prereq 3400:210

3300:250	Topics in World Literature	3 cr.
3300:252	Shakespeare and His World	3 cr.
3300:281	Fiction Appreciation	3 cr.
3200:361	Literature of Greece	3 cr.
3580:350	Lit. of Span.-Amer in Trans	3 cr.

Set 2 - Literature - Prerequisite 3400:210

Set 3 - Fine Arts - Prerequisite 3400:210

7100:210	Visual Arts Awareness	3 cr.
7500:201	Exp. Music: Bach - Rock	3 cr.
7800:301	Intro. to Theatre & Film	3 cr.
7900:200	Viewing Dance	3 cr.

Set 4 - Prerequisite 3400:210

3400:211	Humanities in West. Trad. I	3 cr.
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**II. Buchtel College of Arts & Sciences Requirement**

**B. Foreign Language** (14 credits of the same foreign language)

- First and/or second year may be taken credit/non-credit. (Must earn a C- to receive a grade of Cr.)
- 14 credits of Spanish, French, German, Italian and Latin includes 101, 102 Beginning I and II (4 cr. ea.) and 201, 202 Intermediate I and II (3 cr. ea)
- Must do the second year of any foreign language or Sign Language (Intermediate I and II).
- Sign Language includes 5 courses: 7700:101, 102, 201, 202, and 222.
- A Placement test is available for by-passing classes, if you had more than two years of a language in high school. Go to the Counseling & Testing Center, Simmons Hall 306, 330-972-7084. To get credit for by-passed class(es), must get a C or better in the higher level course. See Dr. Kory (ASEC 277) for the by-pass credit form once the higher level course is completed with a C or higher.

**III. Biology Department Requirements**

**A. Mathematics**

1. **REQUIRED:** 3450:149 Precalculus, 4 credits  
(prerequisite is appropriate ACT/SAT score, Placement Test or 3450:145 College Algebra, 4 crs)  
**OR**  
3450:145 College Algebra, 4 crs. **AND** 3450:147 Trigonometry and Advanced Algebra, 3 crs
2. **Recommended:**  
3470:261/262 Introduction to Statistics I & II, 2 credits each  
3460:125 Descriptive Computer Science, 2 credits
3. **OPTIONAL** but recommended for some professional fields and graduate school:  
3450:221 Analytic Geometry - Calculus I, 4 credits

**B. Chemistry** (19 credits)

F = Fall, S= Spring, SS = Summer Session listed after classes to indicate when classes are taught.

1. 3150:151 Principles of Chemistry I, 3 credits F, S, SSII  
It is recommended to be in or have taken 3450:145 College Algebra to take 151.  
3150:152 Principles of Chemistry Lab, 1 credit F, S, SSII  
3150:153 Principles of Chemistry II, 3 credits F, S, SSIII  
3150:154 Qualitative Analysis, 2 credits S, SSIII (Laboratory Course)
2. 3150:263 Organic Chemistry I, 3 credits F, SSII (Prerequisite is 3150:151-154)  
3150:265 Organic Chemistry I lab, 2 credits F, SSII  
3150:264 Organic Chemistry II, 3 credits S, SSIII  
3150:266 Organic Chemistry II lab, 2 credits S, SSIII

**C. Physics**

Physics is not required for a Biology degree but is recommended. Physics must be taken by students anticipating professional school and should be taken by students anticipating graduate school.

- 3650:261/262 Physics for Life Sciences I and II, 4 cr. ea. F-S, SSII-SSIII (prerequisite Precalculus)  
3650:267/268 Computations I and II, 1 credit each (Optional) F-S, SSII-SSIII

**D. Biology**

Requires a minimum of **40** credits of Biology including:

F = Fall, S= Spring, SS = Summer Session listed after classes to indicate when classes are taught.

1. **Core curriculum (22 credits):**  
3100: 111/112 Principles of Biology I & II, 4 credits each course F-S, SSII-SSIII  
(111/112 are the prerequisites for all higher level Biology courses.)  
3100: 211 General Genetics, 3 credits F, SSII  
3100: 212 Genetics Laboratory, 1 credit F, SSII (does not have to be taken with the lecture)  
3100: 217 General Ecology, 3 credits F, S  
3100: 311 Cell & Molecular Biology, 4 credits F, S, SSII (Genetics is a prerequisite)  
3100: 316 Evolutionary Biology, 3 credits F,S (Genetics is a prerequisite) Semester(s) taught

may change.

2. **18 credits beyond** the core (to reach 40) of upper level (300/400) Biology (**3100**) courses.
  - Can take **ANY** 18 credits of 300/400 level Biology (**3100**) courses except Workshops.
  - May include up to 4 credits of Biological Problems.
  - All students must have 18 total of credits of 300/400 Biology (**3100**) credit beyond the core, regardless of the number of credits required for an Area of Specialization.
3. Sign a Program of Study (contract) with your Biology advisor.

#### **IV. Credits needed for graduation**

- A. University Rules - minimum **128** credits (includes transfer credits)
  - Must have an overall GPA of **2.0** or better (Univ. of Akron grades only)
  - **NOTE - Most students will need to take elective credit beyond the minimum credits needed for the Gen. Ed and Biology requirements to reach 128 credits.**
  - Only UA grades of D- or higher apply toward graduation.
  - Beginning spring 2004, only transfer and transient courses with grades of C- or higher will apply toward graduation or to fulfill any requirement.
- B. Buchtel College of Arts & Sciences - **47** credits at the 300/400 level.
  - By following the Biology rules, you complete 44 of the 47 credits at the 300/400 level (19 credits of Chemistry, 3 cr. of Evol. Bio., 4 cr. of Cell Bio. and 18 credits of 300/400 Biology)
  - The following courses are counted toward the 300/400 level requirement for Biology majors:
    - Mathematics--Calculus (221 or 215 and above)
    - Chemistry--Principles and higher
    - Physics for Life Sciences (or Elementary Classical Physics)
  - Can use 300/400 level courses in any department except General Ed. courses or workshops.
- C. Biology Department - At least **40** credits of Biology
  - Includes 22 core credits & 18 300/400 Biology (3100) credits.
  - Must have a cumulative average GPA of **2.0** or better in Biology courses (this is UA Biology courses ALONE and ALL Biology courses including transfer credit).
  - Only UA grades of D- or higher apply toward graduation.
  - Beginning spring 2004, only transfer and transient courses with grades of C- or higher will apply toward graduation or toward the 40 credits of Biology.
  - Biology courses that do not apply toward the Biology degree (i.e., 103 Natural Science, 130 Principles of Microbiology and 200-203 A&P I and II) cannot be included in the Biology GPA.
  - Courses can fulfill the 47 credits at 300/400 level and the required credits of Biology.

#### **V. Minor in Chemistry (Optional)**

To get a minor in Chemistry, 6 additional credits of 300/400 Chemistry (3150) beyond organic chemistry are required. Most students take 3150:401,402 Biochemistry I and II (3 cr. each).

#### **VI. Applying for Graduation**

The dates by which you must apply for graduation are: Sept. 15 for May grad., Feb. 15 for Aug. grad., and May 15 for Dec. grad.

Get graduation forms in Simmons Hall and return forms to the same room. You can get the forms on-line at [www.uakron.edu/registrar](http://www.uakron.edu/registrar). The BS degree, a second BS degree, and minor are free.

There is a \$100.00 late fee to apply for graduation after the above dates.

## VII. AREAS OF SPECIALIZATION WITHIN BIOLOGY (Optional)

To obtain a B.S. degree with an Area of Specialization within Biology, the student must take the required courses listed below designated A, B, C, etc., for that specific area. While most of the areas of specialization require less than 18 credits, you must complete 18 Biology (3100) credits at the 300/400 level beyond the core.

If you want an Area of Specialization, you must change your major. To do this, tell Dr. Kory (ASEC 277) or go to 448 CAS, the Dean's Office, and change your major from Biology to Biology, Area of Specialization \_\_\_\_\_. Once you have done this, you will be held to the required courses listed for that area. This is the same procedure if you wish to remove an Area of Specialization from your record.

### **ANIMAL PHYSIOLOGY** (13-15 of the required 18 300/400 Biology credits)      **FACULTY**

Required:

- |  |  |                 |
|--|--|-----------------|
| A. 3100:363                              | Animal Physiology, 4 credits F   | Dr. Ely         |
| B. 3100:473                              | Comparative Animal Physiology, lecture, 3 credits S                          | Dr. Londraville |
| C. At least <u>two</u> of the following: |  | Dr. Salisbury   |
| 3100:465                                 | Advanced Cardiovascular Physiology, 3 credits S                              | Dr. Bagatto     |
| 3100:468                                 | Physiology of Reproduction, 3 credits S                                      |                 |
| 3100:469                                 | Respiratory Physiology, 3 credits F  |                 |
| 3100:471                                 | Physiological Genetics, 4 credits (unknown if or when class will be offered) |                 |
| 3100:472                                 | Biological Mechanisms of Stress, 3 credits F                                 |                 |
| 3100:485                                 | Cell Physiology, 4 credits S   |                 |

Electives (courses related to physiology):

- 3100:365 Histology, 4 credits, F and SSI
- 3100:466 Vertebrate Embryology, 4 credits S
- 3100:467 Comparative Vertebrate Morphology, 4 credits F
- 3100:474 Comparative Animal Physiology laboratory, 1 credit (currently not offered)
- 3150:401/2** Biochemistry I and II, 3 credits each F-S, SSII-SSIII (Does not count toward 18 300/400 biology credit. Does count toward a Chemistry minor.)

### **ECOLOGY/EVOLUTION** (16-19 of the required 18 300/400 Biology credits)

### **FACULTY**

Required:

- |                          |   |                  |
|--------------------------|---|------------------|
| A. One of the following: |   | Dr. Weeks        |
| 3100:412                 | Advanced Ecology, 3 credits (no longer offered)   | Dr. Niewiarowski |
| 3100:423                 | Population Biology, 3 credits Alt. F '06  | Dr. Mitchell     |
|                          |   | Dr. Lavrentyev   |
|                          |   | Dr. Moore        |
| B. One of the following: |   | Dr. Blackledge   |
|                          |   | Dr. Pan          |
| 3100:427                 | Aquatic Ecology, 4 credits (to be Limnology) (unknown if or when class will be offered) |                  |
| 3100:430                 | Community/Ecosystem Ecology, 4 credits (unknown if or when class will be offered)       |                  |

### ECOLOGY/EVOLUTION CONTINUES ON THE NEXT PAGE

C. At least one of the following:

- 3100:418 Field Ecology, 4 credits Alt. F '05
- 3100:421 Tropical Field Bio, 4 credits Alt. S '06
- 3100:426 Wetland Ecology, 4 credits (no longer offered)

D. At least one of the following:

Flora and Taxonomy, 3 credits S '07

- 3100:440 Mycology, 4 credits Alt. F '06
- 3100:443 Phycology, 4 credits Alt. F '05
- 3100:445 Plant Morphology, 4 credits F (No longer offered)
- 3100:451 General Entomology, 4 credits Alt. F '06
- 3100:453 Invertebrate Zoology, 4 credits Alt. F. '07
- 3100:455 Ichthyology, 4 credits Alt. F, Probably '07

3100:342

- 3100:456 Ornithology, 4 credits (No longer offered)
- 3100:457 Herpetology, 4 credits (unknown if or when class will be offered)
- 3100:458 Vertebrate Zoology, 4 credits F

E. At least one of the following:

- 3100:406 Principles of Systematics, 3 credits S '07
- 3100:428 Biology of Behavior, 2 credits (old), 3 credits (new) S
- 3100:473 Comparative Animal Physiology, lecture, 3 credits S

**MICROBIOLOGY** (12 of the required 18 300/400 Biology credits)

Required:

- A. 3100:331 Microbiology, 4 credits F
- B. One of the following:
  - 3100:433 Pathogenic Bacteriology, 4 credits S
  - 3100:435 Virology, 4 credits (No longer offered)
- C. 3100:437 Immunology, 4 credits F

**FACULTY**

Dr. Holda  
Dr. Kory  
Dr. Lavrentyev

Electives (courses related to microbiology):

- 3100:440 Mycology, 4 credits Alt. F '06
- 3100:443 Phycology, 4 credits Alt. F '05
- 3100:454 Parasitology, 4 credits Alt. S '06
- 3100:480 Molecular Biology, 3 credits S
- 3100:481 Advanced Genetics, 3 credits S
- 3150:401/2** Biochemistry I & II, 3 credits each F-S, SSII-SSIII (Does not count toward 18 300/400 biology credit. Does count toward a Chemistry minor.)

**ZOOLOGY** (13-15 of the required 18 300/400 Biology credits)

Required:

- D. One of the following:
  - 3100:453 Invertebrate Zoology, 4 credits Alt. F '07
  - 3100:458 Vertebrate Zoology, 4 credits F
- E. 3100:473 Comparative Animal Physiology, lecture, 3 credits S
- F. One of the following:
  - 3100:466 Vertebrate Embryology, 4 credits S
  - 3100:467 Comparative Vertebrate Morphology, 4 credits F
- G. At least one of the following:
  - 3100:365 Histology, 4 credits, F and SSI
  - 3100:421 Tropical Field Biology, 4 credits Alt. S '06
  - 3100:428 Biology of Behavior, 2 credits (old), 3 credits (new) S
  - 3100:451 General Entomology, 4 credits Alt. F '06
  - 3100:454 Parasitology, 4 credits Alt. S '06
  - 3100:456 Ornithology, 4 credits (No longer offered)
  - 3100:457 Herpetology, 4 credits (unknown if or when class will be offered)
  - 3100:455 Ichthyology, 4 credits Alt. F, Probably '07
  - 3100:483 Neurobiology, 3 credits F

**FACULTY**

Dr. Liu  
Dr. Londraville  
Dr. Niewiarowski  
Dr. Weeks

**BOTANY** (14 of the required 18 300/400 Biology credits)

Required:

- A. 3100:342 Flora and Taxonomy, 3 credits Alt. S '07
- B. One of the following:
  - 3100:445 Plant Morphology, 4 credits (No longer offered)
  - 3100:441 Plant Development, 4 credits (No longer offered)
- C. 3100:442 Plant Anatomy, 3 credits (No longer offered)
- D. One of the following:
  - 3100:440 Mycology, 4 credits Alt. F '06
  - 3100:443 Phycology, 4 credits Alt. F '05

**FACULTY**

Dr. Frola  
Dr. Ott  
Dr. Duff  
Dr. Mitchell

**Preparation for Specific Careers**

The following courses are recommended for students preparing for specific careers. Although these curricula provide the necessary training for these specific careers, students will not be awarded an Area of Specialization.

**Pre-Professional** (7-8 of the required 18 300/400 Biology credits)

(Pre-medical, pre-dental, and pre-vet and pre-pharmacy students. **\* This is provided only as a guide \*\***. You should contact the schools you are interested in attending (via the web) for specific requirements.)

Courses that should be taken:

- |  |   |
|--|---|
| <p>A. 3100:363 Animal Physiology, 4 credits F</p> <p>B. At least <u>one</u> of the following:</p> <p>3100 400 level Physiology Course, 3-4 credits</p> <p>3100:466 Vertebrate Embryology, 4 credits S</p> <p>3100:467 Comparative Vertebrate Morphology, 4 credits F</p> <p>3100:473 Comparative Animal Physiology, lecture 3 credits S - Strongly recommended for Pre-vet.</p> <p>C. 3650:261/2 Physics for Life Sciences I &amp; II, 4 credits each F-S, SSII-SSIII</p> <p>D. One of the following:</p> <p>3450:221 Analytic Geometry-Calculus I, 4 credits F, S, SSI (preferred course)</p> <p>3450:215 Concepts of Calculus I, 4 credits</p> <p>E. 3470:261/2 Introductory Statistics I &amp; II, 2 credits each</p> | <p><b>Faculty</b></p> <p>Dr. Ely</p> <p>Dr. Kory</p> <p>Dr. Salisbury</p> |
|--|---|

Courses that may be taken and are part of most medical school curricula:

- 3100:331 Microbiology, 4 credits F
- 3100:365 Histology, 4 credits, F and SSI
- 3150:401/2** Biochemistry I and II, 3 credits each F-S, SSII-SSIII (Does not count toward 18 300/400 biology credit. Does count toward a Chemistry minor.)

NOTE: A biochemistry course is required for admission to OSU Veterinary School.

**High School Biology** (14-16 of the required 18 300/400 Biology credits)

Courses that should be taken:

- |   |  |
|---|--|
| <p>A. 3100:265 Intro. Human Physiology, 4 credits F, S (does not count for Bio. degree)</p> <p>B. One of the following:</p> <p>3100:342 Flora and Taxonomy, 3 credits S '07</p> <p>3100:445 Plant Morphology, 4 credits (No longer offered)</p> <p>C. One of the following:</p> <p>3100:453 Invertebrate Zoology, 4 credits Alt. F '07</p> <p>3100:458 Vertebrate Zoology, 4 credits F</p> <p>D. One of the following:</p> <p>3100:130 Principles of Microbiology, 3 credits, F, S, SSI (does not count toward biology major)</p> <p>3100:331 Microbiology, 4 credits F</p> | <p><b>Faculty</b></p> <p>Dr. Frola</p> <p>Dr. Kory</p> |
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For certification, additional courses in the College of Education are required. See the College of Education and the Buchtel College of Arts and Sciences "Preparation for High School Teaching" section 4 of the Bulletin.

**Required Courses, Biology Department  
(all areas except Premed)**

**First Year**

<u>Fall Semester</u>	<u>Cr.</u>		<u>Spring Semester</u>	<u>Cr.</u>
3100:111 Principles of Biology I plus a Prin. of Bio. I laboratory	4	3100:112	Principles of Biology II plus a Prin. of Bio II laboratory	4
3150:151 Principles of Chemistry I + Recitation	3	3150:153	Principles of Chemistry II + Recitation	3
3150:152 Principles of Chem. I Lab	1	3150:154	Qualitative Analysis (lab)	2
3300:111 English Composition I	4	3300:112	English Composition II	3
3450: Math (based on math placement)	3-4	3450:	Math (must do thru Precalculus) If finished w/ Math start Foreign Lang.	3-4

**Second Year**

Fall Semester

Spring Semester

3150:263	Organic Chemistry I lecture	3	3150:264	Organic Chemistry II lecture	3
3150:265	Organic Chemistry I lab plus a discussion session	2	3150:266	Organic Chemistry II lab plus a discussion session	2
3100:211	General Genetics	3	3100:311	Cell & Molecular Biology	4
3100:212	General Genetics lab (can take later)	1	<b>OR</b> 3100:316	Evolutionary Biology	3
3100:217	217 General Ecology (no lab) also in S	3	Biology Elective (300/400 level)	3-4	
Foreign Language		3-4	General Ed. classes		3-4
<b>OR</b> General Ed. classes		3-4	<b>OR</b> Foreign Language		3-4

### Third Year

Evolutionary Biology, if not done earlier  
 Biology Electives (total 18 credits 3100:300/400)  
 PE  
 General Ed. courses (World Civ.)  
 Finish Foreign Language  
 Sign Contract (see advisor)

### Fourth Year

Cell & Molecular Biology, if not done earlier  
 Biology Electives (total 18 credits 3100:300/400)  
 Finish Foreign Language (if not done earlier)  
 Finish General Ed. courses  
 PE, if not done  
 Sign Contract (if not done in 3rd year)

### General Information:

You MUST take General Genetics in the Sophomore year; it is a prerequisite for most upper level biology courses (except for General Ecology). Genetics is a prerequisite for Evolutionary Biology and Cell/Molecular Biology.

If you elect to have an area of specialization, try to choose the area by the end of your second year. Although a specialization is OPTIONAL, if you decide to specialize, you must complete the required courses in that area as listed in the Areas of Specialization. Tell Dr. Kory (ASEC 277) or go to the Arts & Science Building 448 (Office of Dean of College of Arts and Sciences) and change your major from Biology to Biology, Area of Specialization \_\_\_\_\_

Talk to a faculty member in the department who is in the field you are interested in for advice about graduate programs and career opportunities (see names listed next to the areas of specialization).

Take Physics and/or Calculus if you plan to go to graduate school.

Do a Biological Problems (independent research) if plan to go to graduate school. Four credits can apply toward the 18 300/400 level biology credits.

Minors - see the general Bulletin for requirements.

To get a minor in Chemistry, 6 additional credits of 300/400 Chemistry beyond organic chemistry are required.

Dates must apply for graduation are: Sept. 15 for May grad., Feb. 15 for Aug. grad., and May 15 for Dec. grad.

Get forms for a major and minor in Simmons Hall and return forms to the same room. There is no charge. However, there is a \$100.00 late fee for applying for graduation after the above deadlines.

## Required Courses, Biology Department

### Premed

#### First Year

<u>Fall Semester</u>		<u>Cr.</u>	<u>Spring Semester</u>		<u>Cr.</u>
3100:111	Principles of Biology I plus a Prin. of Bio. I laboratory	4	3100:112	Principles of Biology II plus a Prin. of Bio II laboratory	4
3150:151	Principles of Chemistry I + Recitation	3	3150:153	Principles of Chemistry II + Recitation	3
3150:152	Principles of Chem. I Lab	1	3150:154	Qualitative Analysis (lab)	2
3300:111	English Composition I	4	3300:112	English Composition II	3
3450:Math (based on math placement)		3-4	3450:	Math (must do thru Precalculus) If finished w/ Math start Foreign Lang.	3-4

#### Second Year

<u>Fall Semester</u>			<u>Spring Semester</u>		
3150:263	Organic Chemistry I lecture	3	3150:264	Organic Chemistry II lecture	3
3150:265	Organic Chemistry I lab plus a discussion session	2	3150:266	Organic Chemistry II lab plus a discussion session	2
3100:211	General Genetics	3	3100:311	Cell & Molecular Biology	4
3100:212	General Genetics lab (can take later)	1	<b>OR</b> 3100:316	Evolutionary Biology	3
3100:217	217 General Ecology (no lab) also in S	3	3100:221	Analytical Geometry & Calculus	4
Foreign Language		3-4	General Ed. classes		3-4

**Third Year**

261/262 Physics for Life Sciences  
 Take MCAT in **APRIL** (April is more advantageous)  
 Cell & Molecular Biology, if not done earlier.  
 363 Animal Physiology  
 Biology Electives (total 18 credits 3100:300/400)  
 General Ed. Course (World Civs.)  
 Finish Foreign Language  
 Sign Contract (see advisor)

**Fourth Year**

400 level Physiology/Anatomy course  
 Take MCAT again, if did poorly (August)  
 401/402 Biochemistry I and II, if possible  
 Biology Electives (total 18 credits 3100:300/400)  
 Finish General Ed. courses  
 Do PE (if forgot)  
 Sign Contract (if not done in 3rd year)

**General Information for applying to medical school:**

You MUST take General Genetics in the Sophomore year; it is a prerequisite for most upper level biology courses (except General Ecology). Genetics is a prerequisite for Evolutionary Biology & Cell/Molecular. MCAT - 4 sections: Verbal reasoning, Physical Sciences (Physics & Inorganic Chem), Biological Sciences (Bio. & Organic Chemistry), each section is graded on a 1-15 scale with 15 being the best, need to score in the 8-9 range in each to **start** to be competitive. Fourth section is a Writing Sample - is graded on a J to T scale, with T being the best. Probably need an O to start to be competitive. MCAT is offered in April & August. MCAT registration is on-line at [www.aamc.org/mcat](http://www.aamc.org/mcat) and begins the 1<sup>st</sup> week (or so) of February. Need at least a 3.3 Overall and Science (Bio, Chem, Math, Physics) GPAs to **start** to be competitive. This includes ALL classes taken at all universities including any repeat for change of grade courses. There are five state-supported medical schools in Ohio: OSU, Univ. of Cinn., Wright State (Dayton), MCO (Medical College of Ohio, Toledo) and NEOUCOM. The Osteopathic Med. School is at OU (Athens). Apply in the summer before your senior year (and have taken MCATs in April of Junior year). It is much more advantageous to take the April MCAT (than August MCAT) so you can apply early! Get involved in some clubs or organizations (Biology, Future Physicians, Tri-Beta, Greek) Work in the medical field (volunteer at a hospital and/or nursing home). This is critically important. You may want to do independent research = Biological Problem (4 credits count toward 300/400 requirements) To get a minor in Chemistry, 6 additional credits of 300/400 Chemistry beyond organic chemistry are required. Dates must apply for graduation: Sept. 15 for May grad., Feb. 15 for Aug. grad., and May 15 for Dec. grad. Get major and minor forms in Simmons and return forms to the same room. The BS degree & minor are free. However, there is a \$100.00 late fee for applying for graduation after the above deadlines. Rev. Rules F 05