

Division of Biological Sciences

University of Missouri

2015-2016

Undergraduate Advising Handbook

Note:

We hope that you will use this handbook in conjunction with the MU Undergraduate catalog, the Schedule of Courses in myZou, the Division of Biological Sciences website and the Biology Resources-Steps to Success Blackboard site. Used together, these five tools should make your registration process a smooth one.

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Welcome!

The Division of Biological Sciences offers both a Bachelor of Arts (BA) and a Bachelor of Science (BS) degree in Biological Sciences, in addition to a minor in Biological Sciences for students majoring in other departments.

Both the BA and the BS degree programs will prepare you for graduate study, professional school, or direct entry into a variety of outstanding careers in industry, government service, or education. The BA and BS degree programs each have their own unique advantages. You should speak with your advisor to determine which degree program best matches your career goals.

Within the BA and BS degree programs, you will be able to design an individualized program to prepare for graduate or professional school, or a career in industry, government, or education by taking advantage of the wide variety of science courses available, and the well-rounded nature of the general education program requirements in the College of Arts and Science.

The Honors Program in Biological Sciences offers unique coursework and undergraduate research opportunities. We strongly encourage participation in this program, which may be combined with any of the degree options listed above. More information can be found at the following site:

<http://biology.missouri.edu/undergraduate-studies/>.

This handbook does not contain all the University and College rules, requirements and regulations. You may view a copy of the MU Undergraduate Course Catalog online for additional information. Also, requirements, courses, and even prerequisites change. We won't always be able to tell you personally about these changes, but we will post the changes to the Division of Biological Sciences website. Keep in touch! Also you can look on the Biology Blackboard site (Biology Resources – Steps to Success) under the “My Academics Tab” for more detailed descriptions of the courses currently being offered by the Division.

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Degree Requirements

You will need to complete a total of 120 hours in order to graduate. It will take roughly 90 to 110 credit hours to fulfill the requirements specific to the degrees offered in Biological Sciences. You may use elective courses to bring your total credit hours to 120.

At least 30 of the hours must be in courses at the 3000-level or higher. (Biology 2200 and 2300 and Chemistry 2030, 2100, 2110 and 2130 may be used to meet the 3000-level requirement).

Arts and Science Basic Skills Requirements

- **English Composition**

English composition (English 1000) with a grade of C- or better, or its equivalent is required of all Arts and Science (A&S) students.

- **Two Writing Intensive Courses**

You must complete two Writing Intensive (WI) courses with grades of C- or better. At least one of these WI courses must be numbered 3000 or higher and be a science or math course. You are strongly advised to take one of the 3000 level Biology courses to count both as major hours and your upper level WI requirement, and to do so before your last semester. Double majors may take a 3000 level WI course from either department to meet the requirement for Biological Sciences.

You may also use WI courses to fulfill other graduation requirements.

- **Mathematics**

College Algebra (Math 1100), its equivalent, or advanced standing is required of all A&S students. You will need math beyond the A&S requirements to complete a Biology degree. You will need to take the ALEKS Math Placement test in order to take upper level math courses. Complete information is available on the Math website <http://mathplacement.missouri.edu>.

- **Foreign Language**

You must complete either three semesters of a single foreign language (I, II and III = 13 credit hours) or the equivalent. Select languages may require only two semesters (I and II =12 credit hours). This requirement is waived if you have completed four levels of a single foreign language in high school.

If you have completed four units of a single language in high school or through the fourth level *and* you have also earned some college-level language credit while in high school (but not the full 12-13 hours required by A&S or through the third level) you may choose either: (1) to take the waiver, or (2) to complete the hours in that foreign language that are required for the A&S degree. If you choose to take the waiver you will lose the college credit hours you earned while in high school. If you choose to complete the 12 to 13 hours required by A&S, you will retain the college credit hours you earned while in high school. If you want to take the waiver, you must go to 107 Lowry to let the College know that is your choice.

If you are fluent and literate in another language besides English, please see your professional advisor in 3 Tucker Hall about the possibility of waiving the foreign language requirement.

International students who have graduated from a non-English speaking country do not need to take additional foreign language courses.

- **Foreign Language Alternative Tracks (See Appendix A)**

Students may select 12 hours of courses from one of the following three tracks to substitute for the Foreign Language requirement for students pursuing the Bachelor of Science degree. The three tracks include: Environmental and Conservation Biology, Biology and Humanities/Social Sciences and Health and Nutrition. You may not pick and choose among the tracks—your substitute for Foreign Language must consist of courses from the same track. Courses used to substitute for Foreign Language may NOT be used to satisfy another major, minor, general education requirement or certificate requirements of another program with the exception of a writing intensive course would apply to meet the lower level WI requirement to graduate.

Arts and Science Breadth and Depth of Study Requirements

The following represent common courses that meet these requirements. A complete list is available at <http://generaleducation.missouri.edu/courses/index.php?category=SOC>.

- **Behavioral Sciences** (5 to 6 credit hrs) -- Sample courses could include:

Anthropology (except biological anthropology courses)
Psychology
Rural Sociology 1000 and 2010
Sociology 1000, 1360, 1650, 2200 and 2300

- **Social Sciences** (9 credit hrs in at least two subject areas) -- Sample courses could include:

Economics
Geography (except 1050)
History
Political Science

Note: All MU students must take one of the following courses in order to satisfy the Missouri state law requirement: History 1100, 1200, 1400, 2210, 2440, 4000, 4230; Political Science 1100, 1700, 2100

- **Humanities and Fine Arts** (12 credit hrs in at least three subject areas) -- Sample courses could include:

Art 1010, 1020
Art History and Archaeology
Classical Humanities 1050, 1060, 2005, 2100, 2200, 2300 and 2400
Communication 1200, 2100
Foreign Civilizations
Honors-General 2111H, 2112H, 2113H, 2114H, 2117H and 2120H Linguistics 2700
Literature (in the English or Foreign Language departments)
Music History and Literature
Philosophy
Religious Studies

You may also take selected courses in Black Studies, Peace Studies, and/or Women's Studies that will fulfill the Breadth of Study requirement. If the course is cross-listed with another department then it falls within the field of the cross-listed department. Certain non-A&S courses may be used to fulfill the Breadth of Study requirement, but only one such course may be used in each of the three categories. **Courses used to fulfill the requirement of an A&S Minor may also be used to fulfill Breadth of Study requirements.**

Depth of Study Requirement

You must complete 9 hours of coursework at the 2000-level or higher in at least two of the three breadth categories (Behavioral Sciences, Social Sciences, Humanities and Fine Arts). At least one of these three courses must be completed at MU. **Courses used to fulfill the requirements in an A&S Minor may also be used to fulfill Depth of Study requirements.** Students are not allowed to use courses required for the major towards the Depth of Study. Only one non-A&S course can be used to fulfill the Depth of Study requirement.

Bachelor of Arts (BA) in Biological Sciences

Courses in Biological Sciences

You must complete a total of 29 hours in biology, including the specific course requirements listed below. The remainder of your 29 hours may be taken from any of the courses offered in the Division of Biological Sciences at the 2000-level or higher excluding independent readings, internship problems, service learning credits, Biology 2060 and 2100. Microbiology M3200, and Biochemistry 4270 and 4272 may be counted towards the 29 hours. The Satisfactory/Unsatisfactory grading option **may not** be used for biology course requirements.

You are encouraged to gain research experience at MU. To earn academic credit for research completed with Biological Sciences or other life science faculty, you *must complete a total of six research credit hours* (Bio 4950, 3 hours *and* Bio 4952, 3 hours or Bio 4950H, 3 hours *and* Bio 4952H, 3 hours). The first three hours earned (Bio 4950/4950H) will be applied only toward the total 120 hours required for graduation. The second three hours (Bio 4952/4952H) will count toward the required biology hours as well as the 120 hours for graduation. Students are permitted to enroll in a maximum of 12 hours of research credit. A total of 9 hours will apply toward elective credit toward graduation and 3 will count toward the required biology hours. To enroll in Undergraduate Research you must have a 2.75 GPA and have completed or be concurrently enrolled in a combination of 20 hours of biology and chemistry coursework. The application to apply for research credit can be found on the biology web page: <http://biology.missouri.edu/undergraduate-studies/honors-program/>. Students can make appointments with Dr. David Setzer, Director of Undergraduate Research, for assistance with selecting a qualified research experience.

Required Courses in Biology:

You must check the prerequisites for any course in which you enroll. Prerequisites for Biology courses are listed in the Biology Undergraduate Advising Handbook, the MU Undergraduate Catalog as well as in myZou under each course listed.

- **General Biology**

Introduction to Biological Systems (Biology 1500, 5 hrs, f & s)

- **Genetics**
General Genetics (Biology 2200, 4 hrs, f & s)
- **Cell Biology**
Cell Biology (Biology 2300, 4 hrs, f & s)
- **Evolutionary Biology** (select *one* course)
*Evolution and Ecology (Biology 3400, 3 hrs, f & s)
Evolution (Biology 4600, 3 hrs, f & s)

***Effective Spring 2015**: No credit for Bio 3400 if either Bio 3650 or Bio 4600 is already completed. May not be co-enrolled in Bio 3400 and Bio 4600.
- **Biological Diversity** (select *one* course)

Ornithology (Biology 2600, 4 hrs, lab, s)
Ichthyology (Biology 2700, 4 hrs, lab, s)
Medical Microbiology (M3200, 4 hrs, f & s)
Plant Systematics (Biology 3210, 4 hrs, lab, s)
Invertebrate Zoology (Biology 3260, 4 hrs, lab, s)
Biology of Fungi (Biology 3510, 3 hrs, lab, s)
Mammalogy (Biology 3660, 4 hrs, lab, s)
Entomology/Insect Diversity (Biology 3710 & 3715, 5 hrs, lab, f only-both required to meet Diversity requirement)
General Microbiology (Biology 3750, 3 hrs, f)
- **Capstone** (Select *one* course or combination, to be completed in the last 45 hours)
Undergraduate Research (Biology 4950 & 4952 or 4950H & 4952H, 3 hrs each, f, s, sum)
Molecular Biology (Biology 4976, 3 hrs, f & s)
Cancer Biology (Biology 4978, 3 hrs, f)
Human Inherited Diseases (Biology 4982, 3 hrs, even f)
Molecular Ecology (Biology 4983, 4 hrs, lab, odd s)
Mammalian Reproductive Biology (Biology 4984, 3 hrs, f)
Neurology of Motor Systems (Biology 4986, 3 hrs, odd f)
Nerve Cells and Behavior (Biology 4988, 3 hrs, odd s)
Vertebrate Histology & Microscopic Anatomy (Bio 4990, 5 hrs, lab, f)
Senior Seminar (Biology 4994, 3 hrs, f & s)
- **Upperclass Course Requirement**
You must complete at least 16 hours in biology courses at the 3000-level or higher.
- **Laboratory/Field Course Requirement**
You must complete at least one biology course at the 3000-level or higher that includes an approved laboratory or field experience. Med Micro 3200 may not be used to satisfy this requirement. Biology 4950 and 4952 Undergraduate Research does meet the lab requirement.
- **Biology Coursework at MU**
You must complete at least 12 hours in biology at the 2000-level or higher *at MU*.

Courses in Related Science Fields

- **Chemistry**

General Chemistry 1320 (4 hrs), and 1330 (4 hrs)
Survey of Organic Chemistry 2030 (3 hrs) *or* Organic Chem 2100 (3 hrs) &
Organic Chem II 2110 (3 hrs)

- **Physical Sciences** (select *one* course)

Physics 1210 (4 hrs) *or* Physics 2750 (5 hrs)
Principles of Geology (Geology 1100, 4 hrs)
Environmental Geology (Geology 1200, 4 hrs)
Astronomy 1010 (4 hrs)

- **Mathematical Sciences** (select *one* course)

Calculus for Social and Natural Sciences I (Math 1400, 3 hrs)
Analytic Geometry and Calculus (Math 1500, 5 hrs)
Introductory Statistics (Statistics 1200, 1300 *or* 1400, 3 hrs)
Introduction to Problem Solving and Programming (InfoTC 1040, 3 hrs)

You must receive a grade of C- or higher in all biology courses and in all related science courses that you use to fulfill requirements for an undergraduate degree in Biological Sciences. A grade of C- is the equivalent of 1.7 on a 4.0 scale. You must also maintain a GPA of 2.0 or higher in all MU biology courses as well as in all MU related science courses that you use to fulfill requirements for a degree in Biological Sciences. Finally, you must maintain a GPA of 2.0 overall, as well as in your final 60 hours and your final 30 hours.

Bachelor of Science (BS) in Biological Sciences

- **Arts and Science Basic Skills and Breadth/Depth of Study Requirements**

The A&S Basic Skills and Breadth/Depth of Study Requirements are identical for the BS in Biological Sciences and the BA in Biological Sciences (p. 6). A total of 120 hours is required for the BS in Biological Sciences.

- **Biology**

You must complete a total of **33 hours** in Biology for the BS degree (as compared to 29 hours for the BA degree) and at least **14 hours** in biology at the 3000 level or higher for the BS degree (as compared to 16 hours for the BA degree). The distribution of Biology courses and all other requirements with respect to Biology courses are identical for the BS and the BA in Biological Sciences.

- **Related Science Fields**

The requirements in the Related Science Fields are identical for the BS in Biological Sciences and the BA in Biological Sciences **with the following additional coursework:**

- **Physical Sciences**
 - Organic Chemistry II (Chem 2110, 2 hrs) and Organic Lab (Chem 2130, 2 hrs)
 - Select *one* of the following *sets* of Physics courses
 - College Physics I and II (Physics 1210, 4 hrs and 1220, 4 hrs)
 - University Physics I and II (Physics 2750, 5 hrs and 2760, 5 hrs)
- **Mathematical Sciences** (6-8 hours total)
 - Calculus for Social and Natural Sciences I (Math 1400) *or* Analytic Geometry and Calculus I (Math 1500, 5 hrs) **and** Introductory Statistics (Stat 1200, 1300 or 1400), 3 hrs

Courses that do not count toward a Biology Degree

You may not use independent reading, internship, problems courses or Bio 1001, 1010, 1020, 1060, 1200, 1400, 2001, 2060 or 2100 to meet the 29 (BA) or 33 (BS) hour requirement.

Probation Holds

Any biology major on academic probation (falls below a 2.0 cumulative or semester gpa and/or does not complete 12 credit hours) will have a registration hold placed on their record and is required to schedule an appointment with one of our professional advisors in the Biological Science Advising Center - Room 3 Tucker Hall before the next registration period. The reasons or circumstances that led to the low grades will be discussed. The advisor and student will discuss appropriateness of the major, as well as campus resources, study tips, and other strategies to help the student succeed.

Procedure to enroll in research

Bio 4950/4952 (2.75 MU cum gpa and 20 hours of science required)

- Complete the form **Guidelines and Agreement for Undergraduate Research in the Division of Biological Sciences** available online www.biology.missouri.edu. Click on Undergraduate Studies and the bullet marked Research Opportunities. The section marked "Guidelines and Agreement for Undergraduate Research in the Division of Biological Sciences" will contain one printable form for either regular or honors sections of research.
- Collect the signature of your research mentor and Dr. Setzer, Director of Undergraduate Research.
- Return the signed form to the Biology Advising Center in 3 Tucker Hall to receive a permission number to enroll in the course.

Honors credit for research Bio 4950H/4952H (3.3 MU cum gpa and 20 hours of science required)

- Set up a meeting with Dr. David Setzer, Biological Sciences Honors Program Director, to discuss your research interest.
- In consultation with your faculty mentor, complete an Honors Research Application <http://biology.missouri.edu/undergraduate-studies/honors-program/> that is available online.
- Submit the completed application to Dr. David Setzer, Biological Sciences Honors Program Director, at setzerd@missouri.edu.
- After your application has been approved by Dr. Setzer, complete the form **Guidelines and Agreement for Undergraduate Research in the Division of Biological Sciences** <http://biology.missouri.edu/undergraduate-studies/honors-program/> and check the correct course number, 4950H or 4952H. This form requires three signatures, obtained in order, before you submit the form to the Biology Advising Office: your own signature, your faculty mentor's signature, and the signature of the Honors Program Director.
- Submit the completed "Guidelines and Agreement" form to the staff in 3 Tucker Hall. They will provide you with a permission number for enrollment in Bio 4950H/4952H.
- In order to graduate with departmental honors in Biology, you will be required to present the results of your work at least once in the form of a poster presentation at a public research forum or in the form of a paper written in the style of a scientific journal article. Full information is available online <http://biology.missouri.edu/undergraduate-studies/honors-program/>. Please confer with the Honors Program Director in advance about your honors research presentation.

Capstone credit for research

In order to use research hours for capstone credit, a student must either:

- Complete requirements for Honors credit and thus automatically satisfy the requirement for Capstone credit or
- At the end of second semester (Bio 4952) present to Dr. David Setzer, Biological Sciences Honors Program Director, either:
 - a. An abstract of a poster or oral presentation given by the student at a scientific meeting
 - b. An article describing your research written in a format suitable for publication in a scientific journal

If no submission is made by the last day of the semester, the credit will apply toward Biology electives and not meet the requirement for Capstone credit.

Internship in Biological Sciences

- **Biological Sciences 2940: Internship in Biological Sciences**

Internships that provide real world science experiences extend opportunities beyond the classroom as they connect student's experiences to the world of work, help them find mentors and establish lasting mentoring relationships, and present exciting (new) career options.

It is impossible to learn about many careers without immersion in that environment and biology students who are looking for employment in industry or another non-academic setting can't wait until they graduate to get experience outside of their formal class work since many career jobs today require prior experience in the field.

- **Objective**

The Biological Sciences undergraduate internship provides practical experience that extends what you have learned in your formal course work, allowing you to develop a first-hand understanding of research or other work in a company or another non-academic setting. Because this is intended as a real world experience, it is your responsibility to arrange the details of your experience, including finding a company, etc. in which to do your internship and an individual at that company/institution who will be your mentor.

- **Hours and Credit**

Variable credit: 1-3 hours. May be repeated up to a total of 3 hours. May not be used to satisfy Biological Sciences coursework requirements. Offered in the summer term only. Required to work a minimum of 50 hours for each hour of credit.

Because this is a real world work experience, if you miss work because of illness or other conflicts, you must make arrangements with your supervisor to make up the time missed. Unsatisfactory work performance will translate into an unsatisfactory work evaluation.

Academic credit is earned for what you learn, not simply for what you do. Your final course grade, therefore, will be based on the written reports described below (35%) and a report from the internship supervisor (65%). Internship credit is graded S/U.

- **Prerequisites**

Junior standing, 2.7 overall GPA, and completion of at least one-half of the required science coursework for a major in Biological Sciences with grades of C or better and written approval from the Division of Biological Sciences following submission of the Internship Proposal at least six weeks prior to beginning the internship.

- **Course Requirements**

To initiate and complete the internship you must:

1. Find a program in industry or another non-academic setting that guarantees a real-world experience. Then find someone who is working in that setting who will be your mentor for the summer.
2. Submit a two-page Internship Proposal at least six weeks prior to the proposed internship experience that describes where you would work, to whom you would report, and how your experience would help you learn about a career(s) in biological sciences.

3. Submit a 2-3 page Progress Report by the end of the 2nd week of the internship describing your professional duties, what you are learning, and your goals for the remainder of the summer. See guidelines below.
4. Submit a 4-5 page Final Report on the last day of the summer term discussing your internship experience and what you learned from that experience. See guidelines below.

- **Internship Progress Report Guidelines**

Submit a 2-3 page Progress Report to Professor Thomas Phillips in 2 Tucker Hall. Your Progress Report should include the following:

1. **Summary of professional duties.** Describe what you do for your internship on a daily basis. Be sure to include the name of the company/institution you're working for and your job title.
2. **Describe what you are learning** and the skills you are gaining. Articulate clearly how the internship is helping you reach your educational goals. Focus your discussion on the following three categories:
 - **Intellectual development and academic learning**
 - Basic academic skills gained
 - Subject matter knowledge and skills gained
 - Critical thinking and problem solving skills gained
 - Application of academic knowledge and skills to real world problems
 - Improved communication skills
 - **Leadership and social development**
 - Ability to work cooperatively with others
 - Realistic ideas about the world of work
 - Better understanding of effective leadership
 - **Personal growth and development**
 - Openness to new experiences and unfamiliar roles
 - Willingness to take risks and accept challenges
 - Ability to take responsibility, acknowledge consequences of actions
3. **Future goals:** Taking into account the different categories of academic development you have just discussed, set learning goals for yourself for the rest of the summer.
4. **Academic credit:** Indicate the number of hours you are working per week. (You must work a total of 50 hours in the summer for each hour of academic credit.)
5. **Endorsements:** Both you and your mentor must sign and date the Progress Report.

Note: These items are provided as a stimulus to help you describe your learning experiences. Not all will apply in your case, and there will certainly be other areas of self-discovery that you may wish to examine.

- **Internship Final Report Guidelines**

Submit a 4-5 page Final Report to Professor Thomas Phillips in 2 Tucker Hall. Your Final Report should include the following:

1. **Describe the nature of your internship.** Focus on how your internship has changed since your Progress Report. What new responsibilities have you assumed, etc?
2. **Describe what you have learned while involved in this internship.** How has this program helped you reach your educational goals? Focus your description on the following three categories:
 - **Intellectual development and academic learning**
 - Skills gained in learning from experience (to observe, ask questions, synthesize)
 - Increased curiosity about your world
 - Application of academic knowledge and skills to real world problems
 - Improved communication skills
 - **Leadership and social development**
 - Ability to work cooperatively with others
 - Realistic ideas about the world of work
 - Contacts for future job possibilities
 - Ethical and moral development
 - **Personal growth and development**
 - Self-direction, internal motivation, independence, autonomy, assertiveness
 - Ability to take responsibility, acknowledge consequences of actions
 - Capacity to be productive, to persevere in difficult tasks
3. **Academic credit:** Indicate the total number of hours you worked this summer. (You must work a total of 50 hours in the summer for each hour of academic credit.)
4. **Endorsements:** Both you and your mentor must sign and date the Final Report.

Note: These items are provided as a stimulus to help you describe your learning experiences. Not all will apply in your case, and there will certainly be other areas of self-discovery that you may wish to examine.

Undergraduate Courses in Biological Sciences [for Bio Sci Majors]

<u>Title</u>	<u>Number</u>	<u>Prerequisites / Comments</u>
Introduction to Biological Systems	1500, 5 hrs, lab, f & s	Math 0110 or 1100*
General Genetics	2200, 4 hrs, f & s	Bio 1500 & Chem 1320*
Cell Biology	2300, 4 hrs, f & s	Bio 2200
Ornithology	2600, 4 hrs, lab, s	5 hours of Bio
Ichthyology	2700, 4 hrs, lab, s	8 hours of Bio
Genetics and Society	3050, 3 hrs, s	1 course in Bio / WI
The Human Microbiome	3075, 3 hrs, sum	Bio 2200/ WI
Plant Systematics	3210, 4 hrs, lab, s	8 hours of Bio
Invertebrate Zoology	3260, 4 hrs, lab, s	Bio 1500 / WI
Evolution and Ecology	3400, 3 hrs, f & s	Bio 2200
Biology of Fungi	3510, 3 hrs, lab, s	Bio 1500 or equivalent
General Ecology	3650, 5 hrs, lab, f	10 hrs of Bio & Junior standing / WI
Mammalogy	3660, 4 hrs, lab, s	8 hours of Bio
Animal Physiology	3700, 5 hrs, lab, f & s	Bio 2300
Introductory Entomology	3710, 3 hrs, f	Bio 1500 or equivalent
Insect Diversity	3715, 2 hrs, lab, f	Bio 3710*
General Microbiology	3750, 3 hrs, f	Bio 2300
Genetics Laboratory	3780, 2 hrs, lab, f	Bio 2200 or consent
Developmental Biology	3800, 3 hrs, f & s	Bio 2200 & 2300
Limnology	4100, 3 hrs, f	Bio 3650 or Senior standing
Plant Physiology	4320, 3 hrs, f	Bio 1200/1500 & 5 hrs Chem/Bio 2300 rec
Introductory Radiation Biology	4328, 3 hrs, f	Jr. & 1 course in Bio & Chem/Phys
Plant Anatomy	4400, 4 hrs, lab, f	Bio 1500
Neurobiology	4500, 3 hrs, f	Bio 2300 or consent
Computational Neuroscience	4580, 3 hrs, lab, f	Bio 1500 & Calculus
Evolution	4600, 3 hrs, f & s	Bio 2200
Behavioral Biology	4640, 3 hrs, lec/4 hrs. lab, f	Bio 1500 & 1 upper-level Bio course
Animal Communication	4642, 3 hrs, s	Bio 2300 & Physics 1220
Undergraduate Research I	4950, 3 hrs, f, s & sum	2.75 GPA & 20 hr in Bio / Chem & consent
Undergraduate Research II	4952, 3 hrs, f, s & sum	Bio 4950 & 2.75 GPA & consent
Undergraduate Research I Honors	4950H, 3 hrs, f, s & sum	3.3 GPA & 20 hr in Bio / Chem & consent
Undergraduate Research II Honors	4952H, 3 hrs, f, s & sum	Bio 4950 & 3.3 GPA & consent
Molecular Biology	4976, 3 hrs, f & s	Bio 2200 & 2300
Cancer Biology	4978, 3 hrs, f	Bio 2200 & 2300 / Bio 4976 rec
Human Inherited Diseases	4982, 3 hrs, even f	Bio 2300 / WI
Molecular Ecology	4983, 4 hrs, lab, odd s	Bio 2200, 2300 and 3650
Neurology of Motor Systems	4986, 3 hrs, odd f	Bio 3700 or consent
Nerve Cells and Behavior	4988, 3 hrs, odd s	Bio 3700 or consent
Vert Hist & Microscopic Anatomy	4990, 5 hrs, lab, f	Bio 3700 & Junior standing
Senior Seminar	4994, 3 hrs, f & s	Senior standing

*Concurrent Enrollment

f (fall), s (spring), sum (summer)

Revised 5/22/15

The Graduation Plan

Undergraduates in Arts and Science officially select their major by filling a Graduation Plan. This Plan is considered a contract between you, the Division, and the College and outlines the courses that you have taken, are taking, and intend to take in order to fulfill your degree requirements.

In order to file a Graduation Plan in Biological Sciences, you must have completed the following four courses with a grade of C- or higher: Biology 1500, Chemistry 1320, English 1000 and Math 1100. You must also be in good academic standing with a 2.0 MU cumulative gpa.

You must file a Graduation Plan after you have completed 60 credit hours, but you may elect to do so earlier. If you pass the 60-hour mark without filing a Graduation Plan you **will not be allowed to register** for the following semester until you either file the Plan or turn in a Registration Eligibility Contract. A contract is only good for one semester.

You are encouraged to submit your Graduation Plan online. All Graduation Plan forms are available on our website (<http://www.biology.missouri.edu>) by clicking first on *Undergrad Studies* followed by *Online Graduation Plan*. Then select the BA or BS in Biological Sciences.

You must make an appointment to come to the Biological Sciences Advising Center in 3 Tucker Hall to have one of our professional advisors check over your Plan and certify that requirements have been met before taking the Plan to the A&S Advisement Center in 107 Lowry.

The Graduation Plan gives you a guide to follow when choosing your courses. You *must* choose all of the biology, chemistry, physics, math and Arts and Science Foundation courses, Breadth & Depth and Basic Skills courses that you are required to take to meet requirements for graduation. You do not need to list all of the other elective courses that you will take to meet the total 120 hours required for graduation.

What happens if you take courses that are not listed on your Graduation Plan? What if you don't take classes that you did list?

- You may change the courses that you list on your Graduation Plan.
- You may have course conflicts, a course may not be offered, or you may simply change your mind.
- Make sure that the courses you do end up taking fulfill degree requirements in Biological Sciences and A&S. You should check with one of the professional advisors in 3 Tucker Hall. You should also consult a degree checklist.

What if you earn a D or an F in a course you put on your Graduation Plan?

- If you earn a D or an F in a required course in Biological Sciences (such as Genetics or Cell Biology) you should consult with the professional advisors in Tucker 3 about retaking the class.
- You should also consult your instructor in order to determine why you did not perform well in the course. If you earn a D or an F in a course you are taking to meet the evolutionary, diversity, capstone, or elective requirements you may repeat the course or replace it with an alternative that meets the same requirement.
- If you repeat a course at MU that you took on campus and made a C- or lower on your first attempt, you may choose to submit a **Course Repeat Form** for the class to have the first attempt removed from your overall MU gpa. You are limited to a maximum of 15 credit hours. The forms must be submitted to the Registrar prior to receiving your undergraduate degree. Complete information can be found at <http://registrar.missouri.edu/policies-procedures/course-repeat.php>.

Which Courses Will Count Toward Graduation - and Which Ones Will Not

Credit Toward Specific Degree Requirements in A&S

General Rules

- **Problems, research and readings** courses may not be used to meet A&S Basic Skills, Breadth, or Depth of Study requirements.
- Some **Topics** courses may be used to meet A&S requirements, while others may not. You should check the status of specific topics courses each semester by referring to <http://generaleducation.missouri.edu/courses/index.php?category=SOC..>
- You should check the status of courses in interdisciplinary subjects (like **Women Studies, Black Studies, Peace Studies**, etc.) each semester by checking the approved online list at <http://generaleducation.missouri.edu/courses/index.php?category=SOC..>. These courses may often be used to meet A&S Breadth and Depth of Study requirements, but the category in which each of these courses fit may vary from semester to semester.
- Many non-A&S courses may be used to fulfill the Breadth of Study requirement, but they cannot be used to satisfy the Depth of Study requirement (even if they are numbered 2000 or higher). Only one non-A&S course may be used in each of the Breadth of Study categories.
- Courses that are used to fulfill requirements for a **minor in an A&S department** can also be used to fulfill A&S Basic Skills, Breadth or Depth of Study requirements.

Arts and Science Depth of Study Requirements

- One-hour **Topics courses** may not be used to partially fulfill the Depth of Study requirement unless you complete three one-hour topics courses in the same discipline.

Credit Toward Elective Hours for Graduation in A&S

Credit Limits

- **Science and Mathematics**
 - You can receive a maximum of 5 hours of credit towards graduation for any combination of **Math** 1100, 1120, 1140, 1160, and 1180
 - You can receive a maximum of 5 hours of credit towards graduation for any combination of **Math** 1320, 1400 and 1500
 - You can only receive credit towards graduation for *one* of the following: **Statistics** 1200, 1300, or 1400.

- You can receive a maximum of 4 hours of credit towards graduation for **Statistics** 1200, 1300, 1400, 2200 or 2500.
 - A student can earn a maximum of 10 hours of credit towards graduation for taking introductory **Chemistry** credit (Chem 1000, 1100, 1310, 1320, and 1330)
 - You can receive a maximum of 3 hours of credit towards graduation for taking any combination of the following courses: **Curriculum and Instruction** 1210, 4550 or **Agriculture** 1111 or **Computer Science** 1020
- **Behavioral Sciences**
 - You can only receive credit towards graduation for *one* of the following courses: **Psychology** 2410, **Human Development and Family Studies** 2420, or **Education and Counseling Psychology** 2500
 - You can only receive credit towards graduation for *one* of the following courses: **Sociology** 1000 or **Rural Sociology** 1000
- **Social Sciences**
 - You can only receive credit towards graduation for *one* of the following: **Economics** 1014, 1024, 1051H and **Agricultural Economics** 1041
 - You can only receive credit towards graduation for *one* of the following courses: **Economics** 1015, 1051H and **Agricultural Economics** 1042
 - You can only receive credit towards graduation for **Economics** 3251 or 4351 but not both
 - You can only receive credit towards graduation for **History** 1100 or 1400 but not both
 - You can only receive credit towards graduation for **History** 1200 or 1400 but not both
 - You can only receive credit towards graduation for **Political Science** 1100 or 1700 but not both
- **Fine Arts and Music**
 - You can receive a maximum of 6 hours of credit towards graduation for any combination of **music ensemble courses** including: **Music** 1841, 1842, 1846, 1865, 2843
 - You can receive a maximum of 12 hours of credit towards graduation for any combination of **applied music courses** including: **Music** 1091, 1435, 1445, 2445, 2455, 3455, 3970, 4455, 4970
 - You can receive a maximum of 12 hours of credit towards graduation for any combination of **applied art courses**. This includes all art courses except Art 1010 and 1020.
- **Orientation Courses**

You can receive a maximum of **6 hours of orientation courses** toward graduation that cover life skills, orientation to college life, or from discipline-focused courses. Examples of orientation courses include: **Agriculture** 1115, **Chemical Engineering** 1000, **SSC** 1150, **Educational & Counseling Psychology** 2100, **Electrical Engineering** 1000, **Educational Leadership and Policy Analysis** 3100, **Health Professions** 1000, **Honors** 1010H, **Human Development/Family Studies** 1100, **Information Science & Learning Technologies** 1111, **Interdisciplinary Studies** 1100 (FIG Proseminar), **Interdisciplinary Studies** 2001 (TRIG Proseminar), **Management** 1010, **Nursing** 1000, **Occupational Therapy** 1000, **Parks, Recreation**

Helpful Web Sites

- **MU Biology** - <http://www.biology.missouri.edu>
- **Campus Writing Program** - <http://cwp.missouri.edu/>
Lists all WI courses each semester with descriptions of the writing requirements
- **Chancellor's Diversity Initiatives** -- <http://diversity.missouri.edu/>
- **Blackboard** – <http://bblearn.missouri.edu>
Visit the Biology Resources – Steps to Success for important information
- **Career Center** - <http://career.missouri.edu>
- **Disability Services** -- <http://disabilitycenter.missouri.edu/>
- **Life Sciences Undergraduate Research Opportunities Program (LS UROP)** - <http://www.lsurop.missouri.edu>
- **MU Undergraduate Research** - <http://undergradresearch.missouri.edu>
- **University Registrar** — <http://registrar.missouri.edu>
Find information about academic policies, academic dates and deadlines, transcripts, GPA calculator, degree audits and more.
- **General Education Requirements** -- <http://generaleducation.missouri.edu/courses/>
Expanded list of general education courses
- **Majors.missouri.edu** — <http://majors.missouri.edu/>

Logging Into myZou

First Time Login:

- Go to <http://myzou.missouri.edu>.
- Login using your PAWPRINT and password (the same ones that you use to login to your MU email account.)
- A link called “E-consent” will appear on the left column; click on “E-consent”, read the terms, and click on the “**Accept**”. Accepting the terms of E-consent will enable you to view billing and financial aid information in myZou. You will also have the ability communicate via email and the internet with the Cashier and Financial Aid offices regarding your aid and account balance with MU.
- Logout of myZou, and login again to start the registration process.

Registering for Classes:

- After logging into myZou, click on “Self Service” in left column, and then “Student Center”.
- Click on “Enroll” near the top left under Academics.
- Select the appropriate term (i.e. fall, summer, spring) in the dropdown menu and click continue.
- Click on the black “Search” button in the gray box.
- Select “Course Subject” in the dropdown menu.
- If the course number is known, it may be entered in the box. If a specific course number is not sought, then leave that area blank. Select “Undergraduate” in the course career dropdown menu.
- Click on the “Search” button.

- You will then see a list of all sections of the course being offered. Click the section number link for more information about a particular section or for a course description.
- When you have decided to register for a course, click on the “Select Class” button. If there is a required RSD (recitation) or LAB, you will be prompted to select a section that correlates with that lecture.
- If the course requires consent or an override, enter a permission number in the permission number field. Click “Next”.
- The course should be added to your shopping cart. If you need to continue adding courses to your shopping cart, click on the “Search” button. To enroll in each class, click the “Proceed to Step 2 of 3” button.
- If you do proceed, the “Confirm Classes” page will appear, verifying the classes that you are attempting to enroll in.
- Click “Finish Enrolling”.
- If you were successful in your attempt to enroll in the class, you will see a check mark in the status field, and the message: “This class has been added to your schedule.” If you were not enrolled in the class, you will see an “X” in the status field with an error message. The error message will note why you were not enrolled in the class. You will have an opportunity to fix errors if you receive this message.
- Click the “My Class Schedule” link to view your schedule with the added class.

Additional myZou Terms:

- **Drop a class** to remove a class from your schedule. Click “Enroll” at the Student Center under Academics. Then click the “drop” tab at the top of the page.
- **Permissions Numbers** are necessary when restrictions are placed on courses. There are two reasons why a permission number may be needed for a course:
 - When a class is full, permission is needed to **override** the course capacity if the instructor or department allows additional students to enroll in the class.
 - If a department or instructor wishes to monitor who enrolls in a class, they may require that students contact them for **consent** to enroll in the class.
- **Shopping Cart** allows you to select possible courses before you are eligible to register. You can fill your “shopping cart” with courses you would like to take using this function. Once you are eligible to register, you can select the courses to add to your official schedule.

Other Useful myZou Features:

- **Finances.** This information can be found on the “Student Center” page just below the “Academic” section. In this section you can view your current charges, financial aid and other billing information.
- **Personal Information.** This information can be found on the “Student Center” page just below the “Finances” section. In this section you can update your local address and permanent address for official university communication. It is important to verify that this information is correct and update it if necessary so you can be contacted by MU.
- **GPA and Credit Hours.** This information can be found by clicking on the “Grades” link under Academics at the top of the “Student Center” page. In this section, you can view your official MU GPA and total credit hours completed.
- **Transfer Credit.** This information can be found by clicking on “My Academics” under Academics

at the top of the “Student Center” page. Then click “View my transfer credit report.” Here you can view any transfer credit, dual credit or advanced placement credit you have already earned.

- **Unofficial Transcript.** To request an unofficial transcript to be emailed to your school email address, at the top of the page click Self Service>Academic Records>Rqst Student Academic Profile.

Tips for Summer Courses, Transfer Courses, and Distance Learning Courses

- Check course equivalencies prior to taking a course at another school.
 - For courses at other Missouri schools go to <http://myzou.missouri.edu>, under Guest Access on the left, click on Transfer Course Equivalencies
 - For out-of-state schools, submit a Transfer Course Equivalency form that can be found on the Biology Blackboard – Steps to Success under the “My Academics” tab. The completed form should be taken to 230 Jesse Hall (Admissions) for evaluation.
- If you are pre-med, be wary of taking science courses off campus. Check with your advisor to see if it's advisable in your situation.
- In your last 36 hours, 30 hours must be taken at MU, in residence, to meet the 30 hour residency requirement at Mizzou
- Student's may enroll in up to seven hours of coursework through Distance Learning without Dean's approval. Courses are identified as Distance Learning on myZou under *Instruction Mode: E-Learning 100% online*. A signed application will be required from 107 Lowry if a student wants to take in excess of seven hours in any one semester.

Do You Have Aspirations to attend Professional School?

Many students enter the Division of Biological Sciences in the hopes of being admitted to a professional school after graduation, or in some cases prior to graduation. If you are one of those students you are encouraged to give your best effort to that end, and to continually evaluate your progress toward that goal. You will need a 3.5-3.8 GPA or higher to have a realistic chance of gaining admission to Medical School. Pre-Vet students and Pre-Dental students should aim for a 3.6 GPA or higher, while Pre-Optometry students need a 3.4-3.6 GPA or higher in order to apply. Students who are probably not going to be able to meet those requirements should begin thinking about a second option regarding their career goals. The MU Career Center in the Student Success Center is a good place to start.

Realistically, all students should entertain other options since they may at some point decide that their original choice of career really isn't what they want. You should take every opportunity to job shadow people who work in the field you hope to join. It may be that the day-to-day work of being a physician or being a veterinarian really isn't what you envisioned.

If you seek entrance to one of the human health professional schools you should contact Susan Geisert in the Medopp Office in 211 Lowry Hall as soon as possible to discuss what you need to accomplish in order to get accepted to Medical, Dental or Optometry school.

You can also obtain some wonderful information on the Medopp website, <http://premed.missouri.edu/students/> regarding ways to be a successful professional school applicant.

Sample Plans for Years 1-2 -- BS in Biological Sciences

NOTE: These plans are intended only as *general guides*. Courses outside Biology, Chemistry, Math 1100, and English 1000 are provided only for *illustrative purposes*. Advanced credit or exemption from the Foreign Language requirement and/or advanced credit in non-science courses, along with the interests of each individual student will determine a final combination of courses in each semester that is unique for each student. Note also that the sample schedules in Semester 5 and beyond are left incomplete on purpose because each schedule should be *highly* individualized at that point.

Sample Plan 1 -- A student that is exempt from Math 1100 and has a strong background in high school Chemistry:

Semester 1

Chemistry 1320	4 hrs (General Chem I)
English 1000	3 hrs
Behavioral Science	3 hrs
Social Science	3 hrs (MO State Law)
Humanities	<u>3 hrs</u>
	16 hrs

Semester 2

Chemistry 1330	4 hrs (Gen Chem II)
Biology 1500	5 hrs
Humanities	3 hrs
Social Science	<u>3 hrs</u>
	15 hrs

Semester 3

Chemistry 2100	3 hrs (Organic I)
Biology 2200	4 hrs (Genetics)
*Foreign Language 1	5 hrs
Humanities	<u>3 hrs</u>
	15 hrs

Semester 4

Chemistry 2110/2130	5 hrs (Organic II)
*Foreign Language 2	5 hrs
Bio 2300	4 hrs (Cell)
Behavioral Science	<u>3 hrs</u> (2000+ &/or WI)
	17 hrs

Semester 5

Biology 3400	3 hrs (Evolution and Ecology)
*Foreign Language 3	3 hrs
Stat 1400/ Math 1400	3 hrs
Physics 1210	<u>4 hrs</u> (Physics 1)
	13 hrs

*May substitute 12 hrs of coursework from the approved cluster list (Appendix A) to meet foreign language requirement

Sample Plan 2 -- A student that is exempt from Math 1100

Semester 1

Biology 1500	5 hrs
Humanities	3 hrs
Social Science	3 hrs (Mo State Law)
Behavioral Science	<u>3 hrs</u>
	14 hrs

Semester 2

Chemistry 1320	4 hrs (Gen Chem I)
English 1000	3 hrs
Behavioral Science	3 hrs
Humanities	3 hrs
Social Science	<u>3 hrs</u>
	16 hrs

Semester 3

Chemistry 1330	4 hrs (General Chem II)
Biology 2200	4 hrs (Genetics)
Foreign Language 1	5 hrs
Humanities	<u>3 hrs</u> (2000 +)
	16 hrs

Semester 4

Chem 2100	3 hrs (Org Chem 1)
Social Science	3 hrs
Foreign Language 2	5 hrs
Bio 2300	<u>4 hrs</u> (Cell)
	15 hrs

Semester 5

Chem 2110	3 hrs (Org Chem 11)
Foreign Language 3	3 hrs
Biology 3400	3 hrs (Evolution and Ecology)
Humanities	3 hrs

Sample Plan 3 -- A student that needs Math 1100

Semester 1

Math 1100	3 hrs
Social Science	3 hrs
Biology 1500	5 hrs (Intro Biology)
Humanities	3 hrs
Learning Strategies	<u>2 hrs</u> (SSC 1150)
	16 hrs

Semester 2

Chemistry 1320	4 hrs (Gen. Chem 1)
Behavioral Science	3 hrs
Humanities	3 hrs
Social Science	3 hrs (MO State Law)
English 1000	<u>3 hrs</u>
	16 hrs

Semester 3

Chemistry 1330	4 hrs (General Chem II)
Biology 2200	4 hrs (Genetics)
Humanities	3 hrs
Foreign Language 1	<u>5 hrs</u>
	16 hrs

Semester 4

Humanities	3 hrs
Biology 3400	3 hrs (Evol & Ecology)
Foreign Language 2	5 hrs
Behavioral Science	<u>3 hrs</u> (2000+)
	14 hrs

Semester 5

Foreign Language 3	3 hrs
Chemistry 2100	3 hrs (Organic Chem I)
Biology 2300	4 hrs (Cell)

Semester 6

Stat 1200, 1300 or 1400	3 hrs
Chemistry 2110/2130	5 hrs (Org Chem 11)

Sample Plans for Years 1-2 -- BA in Biological Sciences

NOTE: These plans are intended only as *general guides*. Courses outside Biology, Chemistry, Math 1100, and English 1000 are provided only for *illustrative purposes*. Advanced credit or exemption from the Foreign Language requirement and/or advanced credit in non-science courses, along with the interests of each individual student will determine a final combination of courses in each semester that is unique for each student. Note also that the sample schedules in Semester 5 and beyond are left incomplete on purpose because each schedule should be *highly* individualized at that point.

Sample Plan 1 -- A student that is exempt from Math 1100 and has a strong background in high school Chemistry:

Semester 1

Chemistry 1320	4 hrs (General Chem I)
English 1000	3 hrs
Behavioral Science	3 hrs
Social Science	3 hrs (MO State Law)
Humanities	<u>3 hrs</u>
	16 hrs

Semester 2

Chemistry 1330	4 hrs (Gen Chem II)
Biology 1500	5 hrs
Humanities	3 hrs
Social Science	<u>3 hrs</u>
	15 hrs

Semester 3

Chemistry 2030	3 hrs (Elements of Organic)
Biology 2200	4 hrs (Genetics)
Foreign Language I	5 hrs
Humanities	<u>3 hrs</u>
	15 hrs

Semester 4

Biology 2300	4 hrs (Cell Biology)
Biology Elective	3 hrs
Foreign Language II	5 hrs
Behavioral Science	<u>3 hrs</u> (2000+ &/or WI)
	15 hrs

Semester 5

Biology 3400	3 hrs (Evolution and Ecology)
Foreign Language 3	3 hrs
Stat 1400/ Math 1400	3 hrs
Physics 1210	<u>4 hrs</u> (Physics 1)
	13 hrs

Sample Plan 2 -- A student that is exempt from Math 1100

Semester 1

Biology 1500	5 hrs
Humanities	3 hrs
Social Science	3 hrs (Mo State Law)
Behavioral Science	<u>3 hrs</u>
	14 hrs

Semester 2

Chemistry 1320	4 hrs (Gen Chem I)
English 1000	3 hrs
Behavioral Science	3 hrs
Humanities	3 hrs
Social Science	<u>3 hrs</u>
	16 hrs

Semester 3

Chemistry 1330	4 hrs (General Chem II)
Biology 2200	4 hrs (Genetics)
Foreign Language 1	5 hrs
Humanities	<u>3 hrs</u> (2000 +)
	16 hrs

Semester 4

Bio Elective	3 hrs
Social Science	3 hrs
Foreign Language 2	5 hrs
Bio 2300	<u>4 hrs</u> (Cell)
	15 hrs

Semester 5

Chem 2030	3 hrs (Elements of Organic)
Foreign Language 3	3 hrs
Biology 3400	3 hrs (Evolution and Ecology)
Humanities	3 hrs

Sample Plan 3 -- A student that needs Math 1100

Semester 1

Math 1100	3 hrs
Social Science	3 hrs
Biology 1500	5 hrs (Intro Biology)
Humanities	3 hrs
Learning Strategies	<u>2 hrs</u> (SSC 1150)
	16 hrs

Semester 2

Chemistry 1320	4 hrs (Gen. Chem 1)
Behavioral Science	3 hrs
Humanities	3 hrs
Social Science	3 hrs (MO State Law)
English 1000	<u>3 hrs</u>
	16 hrs

Semester 3

Chemistry 1330	4 hrs (General Chem II)
Biology 2200	4 hrs (Genetics)
Humanities	3 hrs
Foreign Language 1	<u>5 hrs</u>
	16 hrs

Semester 4

Humanities	3 hrs
Biology 3400	3 hrs (Evol & Ecology)
Foreign Language 2	5 hrs
Behavioral Science	<u>3 hrs</u> (2000+)
	14 hrs

Semester 5

Foreign Language 3	3 hrs
Chemistry 2030	3 hrs (Elements of Organic)
Biology 2300	4 hrs (Cell)

Semester 6

Stat 1200, 1300 or 1400	3 hrs
Biology Elective	3 hrs

Appendix A

Substitute for the Foreign Language Requirement for the B.S. in Biological Sciences Effective FS2014

Students may select 12 hours of courses from **one** of the following three clusters to substitute for the Foreign Language requirement. **You may not pick and choose among the clusters – your substitute for Foreign Language must consist of courses from the same cluster. Courses used to substitute for Foreign Language may NOT be used to satisfy major, minor, general education requirements or certificate requirements of another program.**

All of the courses on this list have been offered on a more-or-less regular basis for the past 5 years; however, the Division of Biological Sciences makes no representation that they will continue to do so. Some courses may be restricted to majors during the early registration period. Students should confer with the appropriate departments when questions arise about the offering of particular courses on this list or the availability of spaces for non-majors.

Environmental and Conservation Biology

<input type="checkbox"/> AN SCI 3212 (3 hrs)	<input type="checkbox"/> F & W 3400 (3 hrs)	<input type="checkbox"/> GEOG 2610 (3 hrs)
<input type="checkbox"/> AN SCI 3213 (3 hrs)	<input type="checkbox"/> F & W 3600 (3 hrs)	<input type="checkbox"/> GEOG 2660 (3 hrs)
<input type="checkbox"/> AN SCI 4323 (2 hrs)	<input type="checkbox"/> F & W 3900 (3 hrs)	<input type="checkbox"/> GEOG 4620 (3 hrs)
<input type="checkbox"/> AN SCI 4324 (2 hrs)	<input type="checkbox"/> F & W 4200 (3 hrs)	<input type="checkbox"/> GEOL 2450 (3 hrs)
<input type="checkbox"/> ANTHRO 2500 (3 hrs)	<input type="checkbox"/> F & W 4600 (4 hrs)	<input type="checkbox"/> PLNT SC 2100 (3 hrs)
<input type="checkbox"/> ANTHRO 3560 (3 hrs)	<input type="checkbox"/> F & W 4800 (3 hrs)	<input type="checkbox"/> PLNT SC 2125 (3 hrs)
<input type="checkbox"/> ANTHRO 4885 (3 hrs)	<input type="checkbox"/> FOREST 2151 (4 hrs)	<input type="checkbox"/> SOIL SC 3290 (3 hrs)
<input type="checkbox"/> F & W 2500 (3 hrs)	<input type="checkbox"/> FOREST 4320 (5 hrs)	<input type="checkbox"/> SOIL SC 4312 (3 hrs)
	<input type="checkbox"/> FOREST 4390 (3 hrs)	<input type="checkbox"/> SOIL SC 4313 (3 hrs)

Biology and Humanities/Social Sciences

<input type="checkbox"/> ANTHRO 2050 (5 hrs)	<input type="checkbox"/> ANTHRO 4360 (3 hrs)	<input type="checkbox"/> HLTH SC 3300 (3 hrs)
<input type="checkbox"/> ANTHRO 2500 (3 hrs)	<input type="checkbox"/> ANTHRO 4540 (3 hrs)	<input type="checkbox"/> HLTH SC 4300 (3 hrs)
<input type="checkbox"/> ANTHRO 2580 (3 hrs)	<input type="checkbox"/> ANTHRO 4580 (3 hrs)	<input type="checkbox"/> PHIL 2440 (3 hrs)
<input type="checkbox"/> ANTHRO 3560 (3 hrs)	<input type="checkbox"/> ANTHRO 4885 (3 hrs)	<input type="checkbox"/> PHIL 4400 (3 hrs)
	<input type="checkbox"/> CDS 2190 (3 hrs)	<input type="checkbox"/> RU SOC 2225 (3 hrs)

Health and Nutrition

<input type="checkbox"/> ANTHRO 2050 (5 hrs)	<input type="checkbox"/> BIOCHEM 4270 (3 hrs)	<input type="checkbox"/> MICRO 4300 (2 hrs)
<input type="checkbox"/> ANTHRO 3560 (3 hrs)	<input type="checkbox"/> BIOCHEM 4272 (3 hrs)	<input type="checkbox"/> MICRO 4304 (3 hrs)
<input type="checkbox"/> ANTHRO 4360 (3 hrs)	<input type="checkbox"/> BIOCHEM 4300 (3 hrs)	<input type="checkbox"/> NUTR SC 2222 (3 hrs)
<input type="checkbox"/> ANTHRO 4540 (3 hrs)	<input type="checkbox"/> CHEM 2140 (2 hrs)	<input type="checkbox"/> NUTR SC 2340 (3 hrs)
<input type="checkbox"/> ANTHRO 4580 (3 hrs)	<input type="checkbox"/> CHEM 2400 (3 hrs)	<input type="checkbox"/> NUTR SC 2380 (3 hrs)
<input type="checkbox"/> ANTHRO 4885 (3 hrs)	<input type="checkbox"/> CHEM 3200 (4 hrs)	<input type="checkbox"/> NUTR SC 2450 (3 hrs)
<input type="checkbox"/> ANTHRO 4890 (5 hrs)	<input type="checkbox"/> CHEM 3300 (3 hrs)	<input type="checkbox"/> NUTR SC 2460 (2 hrs)
<input type="checkbox"/> ANTHRO 4894 (3 hrs)	<input type="checkbox"/> F S 2172 (3 hrs)	<input type="checkbox"/> PTH AS 2201 (3 hrs)
	<input type="checkbox"/> F S 4370 (3 hrs)	<input type="checkbox"/> PTH AS 2203 (2 hrs)