Opportunities and Expectations for Honors Students in the School of Life Sciences (SoLS)

Our educational goals in SoLS are to catalyze the development of knowledge, technical and critical thinking skills in the life sciences that will help our undergraduates function as effective citizens, scientists, and scholars in the 21st century. Faculty and students in the School of Life Sciences are engaged in cutting-edge research across a broad range of disciplines. Our disciplinary strengths are reflected in our diverse offerings of undergraduate programs and concentrations, as well as in our undergraduate research opportunities. Life science researchers in SoLS investigate topics ranging from evolution and development, functions of molecules, host-pathogen interactions, cells, brains, organisms, behaviors, to ecosystems, societies, global change, as well as the conceptual and social foundations of science.

Life Sciences at ASU encompass several undergraduate degree programs:

**Biological Sciences B.S., Microbiology B.S., and Molecular Biosciences and Biotechnology B.S.**

Concentrations within the Biological Sciences B.S. include:

- **Neurobiology, Physiology and Behavior**
- **Biology and Society**
- **Conservation Biology and Ecology Sustainability**
- **Genetics, Cell and Developmental Biology**
- **Biomedical Sciences**

Concentrations within the **Microbiology B.S.** include:

- **Medical Microbiology**

Each of the majors and concentrations has its own Honors **Faculty Advisor**. The table of the current advisors is listed below.
### Honors Faculty Advisors

<table>
<thead>
<tr>
<th>Neurobiology, Physiology and Behavior</th>
<th>Kevin McGraw</th>
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### Milestones

We strongly recommend that you make an appointment to see your faculty advisor once **before the end of your freshman year** and again **in the middle of your sophomore year**. While the first time serves to help you get to know each other and learn about the major, the second time will serve to orient you towards possible laboratories and to become familiar with research opportunities in the School of Life Sciences for your **honors thesis project** (more about the honors thesis below).

Note, for the course requirements for each of the majors/concentrations, please follow the links above or here: [https://sols.asu.edu/undergraduate-studies.degrees](https://sols.asu.edu/undergraduate-studies.degrees) and see the Academic Advisors as soon as possible after your arrival at ASU.

### Courses

The goal of the Barrett Honors College’s curriculum is to develop habits of mind that enable persons to be lifelong learners, creative problem solvers, and participatory citizens in a democratic society.

Most of our undergraduate courses can be taken for Honors Enrichment Contract; please contact the instructor at the beginning of the semester to discuss the requirements. Activities for your Honors contract might include attending discussion groups, developing lab exercises, writing papers, preparing class material or giving presentations. We strongly recommend that your selections are realistic as it speaks of poor time management to sign up for an Honors Enrichment Contract and then not to carry it through. The following is a
Link to Barrett information about Honors Enrichment Contracts: http://barretthonors.asu.edu/academics/honors-courses-and-contracts/honors-enrichment-contracts/

Some of our courses are offered with special honors sections. For example, Barrett Honors College students taking Conceptual Approaches to Biology I and II (BIO 281 and 282) are expected to enroll in the designated honors lab sections. The honors lab sections are taught by our best TAs and sometimes by faculty members. Honors students work with other honors students in lab and are challenged to dig deeper in their understanding of biology in both lecture and lab.

Honors thesis project

Honors students are required to complete an honors thesis/creative project. Typically, honors students enroll in 3 credits of BIO/HPS/MIC/MBB 492 (Honors Thesis Research) and in 3 credits of BIO/HPS/MIC/MBB 493 (Honors Thesis) in their junior or senior year. BIO/HPS/MIC/MBB 493 is not repeatable for credit and can be taken for a maximum of 6 credits. Honors students can choose other areas of interest and are not required to complete the thesis project with faculty members in their major. Below are tips for students interested in completing the honors thesis project within the School of Life Sciences.

Steps to prepare for honors thesis research and suggested deadlines:

Year 1:
- Meet with your honors faculty advisor. Start talking about the kinds of research experience that might interest you.
- Think about applying to the SOLUR program.

Year 2:
- Start thinking seriously about what type of research you would like to do by the end of your sophomore year, at the latest.
- Determine what area of research might be most compatible with your future goals (grad school, med school, etc.).
- Look on the websites (SoLS, Chemistry and Biochemistry, Biodesign, School of Sustainability, etc.) to find out who does Life Science related research compatible with your interests. For links to research opportunities, see the flyer at the end of this page.
- Try to come up with a list of at least half a dozen faculty members (the more the better; not everyone will be able to accommodate you). Make an appointment with your Faculty Advisor to discuss who may be the best fit for you.
- Remember, your faculty research mentor will be able to write a detailed letter of reference for you. It is also possible that, if the results of your thesis are publishable, you will be author or co-author of a conference presentation or research paper.

End of Year 2:
- At least 3-4 months before you want to start your research, email the potential faculty mentors (or off-campus mentors) you’ve selected with a detailed introduction of yourself, your professional interests, relevant courses you have taken, and a detailed reasoning of why you would like to work in his or her group. Make sure you...
make it clear in your message that you have looked into their research field, read some of their papers, etc. Remember that faculty members receive many inquiries from students who would like to work with them. You will need to make sure that your inquiry stands out. Displaying genuine interest in, and knowledge of, the research area of the lab makes you a more attractive candidate. Ask the faculty member whether (s)he has space for a motivated undergrad next semester, and whether you can come by and discuss potential research topics.

Year 3:
- When you have found a place to do your research, discuss your project with your faculty mentor. Make sure you have a clear understanding of how the research will be performed. Don’t be shy. Make sure you have a clear understanding of the expectations for progress, product, working hours, and timeline.
- If you would like to receive credit for thesis research, you must request to enroll in BIO/HPS/MIC/MBB 492. You can pick up the appropriate form in LSC 206 or print it from the SoLS website. Once your SoLS faculty mentor signs the form, you will meet with an advisor for approval to enroll in the course. At the end of the semester, the faculty member will assign a grade.
- Prior to enrolling prior to enrolling in thesis credit (BIO/HPS/MIC/MBB 492 or 493) all students must complete a thesis/creative project information session. The session is designed to make certain each student has been informed about the process, expectations, and deadlines. See below for more details.
- Expect to do the bulk of your thesis research during this year and the first semester of your senior year. Research always takes longer than you anticipate. It is unrealistic to think that you can find a faculty mentor, start research and complete a quality project during your senior year.

Year 4:
- Expect to start writing the honors thesis based on your research during the fall semester of your final year. You need to allow sufficient time for writing. The amount of time you need for writing will vary depending upon research project, but it will take months, not days.
- Honors students must enroll in BIO/HPS/MIC/MBB 493 the semester that they defend their thesis. Steps for enrolling in BIO/HPS/MIC/MBB 493 are the same as enrolling in BIO/HPS/MIC/MBB 492.
- Select the rest of your thesis committee. In SoLS, an honors thesis committee is composed of three (3) members. Typically, the mentor and the second reader are faculty members. If the research mentor is off-campus, then the mentor will be a co-director with a regular ASU faculty member. The third member of the committee does not need to be a faculty member.


New Thesis Preparation Requirement, Fall 2013
New requirement of ALL BARRETT students: prior to enrolling in thesis credit (BIO/HPS/MIC/MBB 492 or 493), all students must complete a thesis information session. The session is designed to make certain each student has been informed about the process, expectations, and deadlines. Students may complete this requirement in one of three ways: 1. Through a workshop or course offered in an academic unit and approved by Barrett. These are available in Biology and Society (BIO 314) and Philosophy (workshop) only.
2. Through a workshop/session (several every semester) or a course (one each semester at PHX Downtown campus) offered by Barrett
3. Through an online workshop offered through Barrett via ASU Blackboard.

For more information about the Thesis Preparation Requirement (including how to enroll in the online workshop, see:

The accelerated Bachelor’s and Master’s (4+1) degree program

If you aim to continue with a graduate degree after your Bachelor's, there is an opportunity you might want to consider: The Accelerated Bachelor and Master of Science in Biology right here in the School of Life Sciences gives you the opportunity to link advanced undergraduate coursework with graduate coursework, and gives you a head start on the Master’s degree while completing the Bachelor's degree. The advantage is that if accepted into the program, you can earn a MS degree in only one additional year of studies, while carrying out research in a laboratory towards your thesis. You need to be accepted into a laboratory at the time of application. For more information see:
SOLS Undergraduate Students
It’s never too early to start thinking about research!

What opportunities are there?

- SOLUR (School of Life Sciences Undergraduate Research Program)
  Learn more about the program on the SoLS website
- Individualized Instruction with a faculty member
  Interested in a specific field? Find faculty research interests at the SoLS website
- Volunteer
  Learn more about volunteer opportunities by checking bulletin board postings or the SoLS website

How do I get started?

- Speak with your faculty mentor to discuss and possibly develop a plan for the semester
- If they approve, stop by LSC 206 to pick up the enrollment request form or print one out from the SoLS website

Why should I do research? What’s in it for me?

- Hands-on experience in your field of interest
- Résumé building
- Career Exploration
- Networking
  - Meet professors who can lead you to other opportunities and write excellent letters of recommendation for you
  - Meet other students/grad students with similar interests
- Opportunities for credit or pay