

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

The educational goals of 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. Faculty and students in the School of Life Sciences are engaged in cutting-edge research across a wide range of disciplines. Our disciplinary breadth is reflected in our diverse undergraduate programs and concentrations, as well as in our undergraduate research opportunities. Researchers in SoLS investigate a range of topics, including evolution and development, functions of molecules, host-pathogen interactions, infectious diseases, cancer, cells, brains, organisms, societies, behaviors, conservation of endangered species and habitat, ecosystems, ethics, policy, economics, and global change, as well as the conceptual and social foundations of science.

SoLS offers four undergraduate degree programs:

- [Biological Sciences B.S.](#)
- [Microbiology B.S.](#)
- [Molecular Biosciences and Biotechnology B.S.](#)
- [Neuroscience B.S.](#)

Concentrations within the Biological Sciences B.S. include:

- [Neurobiology, Physiology and Behavior](#)
- [Biology and Society](#)
- [Conservation Biology and Ecology](#)
- [Genetics, Cell and Developmental Biology](#)
- [Biomedical Sciences](#)

The Microbiology B.S. offers a concentration in [Medical Microbiology](#)

Each of the majors and concentrations (except Neuroscience) has a **Faculty Honors Advisor**. The current advisors are listed below.

Faculty Honors Advisors			
Biological Sciences	Sharon Hall	480.965.5650	SharonJHall@asu.edu
	Ann Kinzig	480.965.0584	Ann.Kinzig@asu.edu
Neurobiology, Physiology & Behavior	Kevin McGraw	480.965.5518	Kevin.McGraw@asu.edu
	Miles Orchinik	480.965.5084	M.Orchinik@asu.edu
Biology & Society	Jane Maienschein	480.965.6105	Maienschein@asu.edu
Conservation Biology & Ecology	James Collins	480.965.4578	jcollins@asu.edu
Genetics, Cell & Developmental Biology	Stephen Pratt	480.727-9425	Stephen.Pratt@asu.edu
	Valerie Stout	480.965.4617	vstout@asu.edu
Biomedical Sciences	David Capco	480.965.7011	dcapco@asu.edu
	Joseph Blattman	480.965.2909	Joseph.Blattman@asu.edu
Microbiology (including Medical Microbiology)	Shelley Haydel	480.727.7234	Shelley.Haydel@asu.edu
Molecular Biosciences & Biotechnology	Tsafrir Mor	480.727.7405	Tsafrir.Mor@asu.edu

Early Milestones

End of freshman year – Meet with your Faculty Honors Advisor to establish a point of contact and learn about your major.

Middle of sophomore year – Meet with your Faculty Honors Advisor again to discuss career goals and research interests, and to learn about research opportunities in the School of Life Sciences.

Courses

Note: **For the course requirements** of each major/concentration, please follow the links above or here: <https://sols.asu.edu/degree-programs/undergraduate-degrees> and see an **Academic Advisor** as soon as possible after your arrival at ASU.

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 with an 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://barrethonors.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 one another 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 Faculty Honors Advisor. Start discussing the kinds of research experience that might interest you.
- If you are accepted into a research group, you should consider enrolling in BIO 289: [SOLUR](#) Seminar Apprentice level.

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, research, jobs, etc.).
- Peruse websites (SoLS, School of Molecular Sciences, Biodesign Institute, School of Sustainability, School of Engineering, etc.) to learn more about life sciences-related research compatible with your interests. **For further information on research opportunities, see the flyer at the end of this page.**
- Generate 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 Honors 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 working in a research group, email the potential faculty research mentors (or off-campus mentors) you've selected. In this email, you should provide the following:
 - a detailed introduction of yourself,
 - your professional interests and career goals,
 - relevant courses you have taken,
 - relevant courses that you plan to take in the future, and
 - a detailed reasoning or description of why you would like to work with this mentor.
- You want to convey 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 prospective mentor 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 set up a meeting to 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 that you learn the expectations for progress, commitment, 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 from the [SoLS Advising](#) office in LSA 189 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 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 during the fall semester of your final year. You need to allow sufficient time for writing. The amount of time you need will vary depending upon research project, but it will take months, not days. Similar to research, writing always takes longer than you anticipate.
- 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.

For more detailed information about the Honors Thesis Project, please refer to your honors advisor and the Thesis/Creative Guidelines found at:

<http://barretthonors.asu.edu/academics/thesis-and-creative-project/>

Thesis Preparation Requirement

Prior to enrolling in thesis courses (BIO/HPS/MIC/MBB 492 or 493), all Barrett 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. An in-person workshop offered by Barrett on all campuses.
2. A workshop or course offered in an academic unit and approved by Barrett. These are available in Biology and Society (BIO 314), Aerospace and Mechanical Engineering (MAE 394), the School of Historical, Philosophical, and Religious Studies (workshop), Psychology (workshop), the School of Mathematical and Statistical Sciences (workshop), and the Herberger Design School (workshop).
3. An online workshop offered by Barrett through Blackboard.

For more information about the thesis preparation requirement (including how to enroll in the online workshop), see: <https://barretthonors.asu.edu/academics/thesis-and-creative-project/getting-started>.

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

If you aim to continue with a graduate degree after receiving your Bachelor's degree, there is an opportunity you might want to consider: The Accelerated Bachelor and Master of Science in Biology or Biology and Society, right here in the School of Life Sciences. This program allows you 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 study, while carrying out research towards your thesis. You need to be accepted by a mentor at the time of application. For more information see: <https://sols.asu.edu/degree-programs/accelerated-bachelor-master-science>.

School of Life Science (SOLS) UNDERGRADUATE STUDENTS

Are you ready for research experience?

How do I start?

Why should I do research?

**What are the opportunities in the
School of Life Sciences?**

Contact:

Ms. Ivy Esquibel

Ivy.Esquibel@asu.edu

SoLS Academic Success Coordinator

**ASU School of Life Sciences
Undergraduate Research**

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 **handshake**

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