A Guide for Students Considering a 91r, Undergraduate Research for Credit, in HEB

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Overview of 91r

HEB 91r allows students to receive course credit for research carried out under the supervision of a faculty member. This research may be in the lab, in the field, or it may involve analysis of preexisting data or literature-based research. Students find advisors for their 91r research classes in a number of ways: Many are inspired in class by a particular instructor and approach them about independent research; students may meet with one of the HEB concentration advisors to get recommendations about which faculty member(s) would be a good match; or students may learn more about faculty research interests and opportunities via the web, by visiting professors' lab pages and reading recent publications that have come out of a particular lab.

The requirements for HEB 91r are flexible, but normally students meet weekly with their faculty supervisor, read and discuss scientific articles pertinent to their research project, and submit a research paper at the end of the course. We encourage students to get feedback from the supervisor on preparation for and drafts of the paper. HEB 91r is a one-semester course that ordinarily may be repeated once. The letter grade for HEB 91r is determined by the faculty sponsor and based on the student's research progress over the semester, the quality of preparation for meetings, and on the final paper. Frequently, HEB 91r is taken in one or both semesters of the junior year in preparation for HEB 99 and researching/writing the senior thesis, although it may also be taken in the sophomore year or, for students not intending to write a thesis, in the senior year.

Enrolling in 91r is, in itself, a process (in contrast to most standard courses). You need to seek out an individual faculty member with whom you'd like to work—and who will commit to working with you—and come to a mutual agreement and understanding with him/her about what your 91r project will be.

So, how do you go about that, anyway? Good question!

Why Research?

An important first step is to ask yourself why you're interested in research. It can be a great experience, but it's not for every student. Also, keep in mind that doing lab research isn't a hard-and-fast requirement for med school. From the Premedical Information for Harvard Students:

> "Basic science research is not a requirement for medical school admission, and in fact, a number of Harvard students continue on to medical school without working in a lab. Successful medical school applicants have usually demonstrated the ability to pursue an area of study in depth. This could be basic science research, clinical research, or a thesis in English literature. The experience of formulating an original research question and critically analyzing data does not necessarily have to occur in a basic science research lab" (p. 9).

Finding a Subject Area and Advisor

If there's an area or professor's work in which you're interested, take a class in that area or with that professor. (You can see the 2019-20 line-up of HEB courses on the Life Sciences site.) If you take an HEB-relevant approach to HEB-relevant questions, you can also end up doing a 91r with a professor in another department or at the med school, for example. This is fairly common for HEB students. If you should go on to pursue a senior thesis with a non-HEB advisor, you'd just need to find an "in-house" sponsor to provide HEB-flavored academic support for your thesis research (to supplement your external advisor).

Some students find themselves really being driven by a particular question, and then look for an advisor who can help guide their research via a 91r. Others really enjoy working with a particular faculty member, and then look for potential research topics to pursue under their guidance.

Check out the advice and Q & A at the Research page on the Life Sciences website for some help in formulating ideas.

Some Questions to Ask Yourself

- In your classes and other academic experiences thus far, is there an instructor with whom you feel like you really connected?

- What have been the topics or questions that you've found compelling during your classes (Harvard or elsewhere) and/or during your other research experiences? What areas have you really enjoyed the most?

- Do you have any particular skills that might be useful or make you especially qualified to pursue some kind of research? For example, have you done lab work that gave you expertise in an area that might open up some possibilities, research-wise?

- What topics in HEB interest you most? Behavioral phenomena? Anatomical adaptations? In modern humans, non-human primates, or extinct species?

Considering a Senior Honors Thesis?

In HEB, we typically encourage students to take a Junior Research Seminar with a potential thesis advisor, if possible, and then follow that up with independent research in the form of a 91r.

The "ideal" 91r experience would have most or all of these features, in order to set you up for a potential senior thesis:

(1) A faculty advisor with whom you feel comfortable, have a good rapport, and share some academic interests.
(2) A research project that can have a realistic milestone point at the end of the semester (some sort of final paper or project), but that could also serve as the

foundation or gateway to doing a more involved (senior thesis) project going forward.

(3) A research project that is motivated by a question that really interests you, and that you're excited about investigating.