# Independent Study Policies

Program in Biology // Undergraduate Program in Neuroscience
: 2200 Biological Sciences Bldg. (BSB) : http://www.lsa.umich.edu/biology (/neurosci)
: lsa-biology-independentstudy@umich.edu : 734-763-7984

**What is Independent Research?**

- Independent research is defined as a lab, field, or modeling project in which the student will have a say in the design, carrying out, and interpretation of experiments.
- It is expected that the student will meet regularly with his or her mentor, and will also gain exposure to the scientific literature of the field.
- It is recognized that many research projects will begin with a semester during which the student is mainly learning experimental techniques. *Experiences that are strictly technical are not eligible for independent research credit*, but it is appropriate for the student to receive credit for independent research during a term he or she is mainly learning techniques, as long as the project is structured in a way that will eventually lead to independence.
- Projects involving human subjects or patient records usually are *not appropriate* for an EEB/MCDB 300 or 400 election.

**What is BIOLOGY 299?**

- BIOLOGY 299 is intended only for Biology, Health, & Society (BHS) majors who want to pursue interdisciplinary research (i.e., on a theme incorporating research outside of traditional biology lab work).
- Students will need to conduct original research on an approved topic related to health and/or society and its impacts on or interactions with biology. Literature surveys or reviews are not eligible.
- Approved BHS interdisciplinary (BHS-ID) research students who work with faculty outside of EEB and MCDB will be supervised (co-sponsored) by the BHS student research committee (composed of EEB/MCDB faculty).
- BHS majors pursuing traditional biology research in a biology lab should follow the standard research path (i.e., BIOLOGY 200 and/or EEB/MCDB 300/400).

**I'm a Neuroscience major, which course(s) should I elect?**

- Students conducting independent research on topics in neuroscience with **approved neuroscience faculty**, should elect NEURO 360 or 460 [see neuro. faculty list on UPiN website].
- Students who are researching in MCDB labs on topics related to molecular, cellular, and/or developmental biology should register for the MCDB 300/400 track.
- Students researching in psychology labs should follow up with the department of Psychology to choose the appropriate courses.
- Any student completing a neuroscience thesis should register for NEURO 461 during the term he/she is writing and submitting the thesis. (Students should also be registered for NEURO 460 unless all lab work has already been completed before the start of the semester.)

**What if my Faculty Sponsor is not an EEB or MCDB faculty member?**

- A student wishing to receive credit toward his or her major for research done under the direction of a faculty member *in another department or unit of the University* must obtain approval from a faculty member in the Department of EEB or MCDB, who agrees to serve as co-sponsor **before** beginning the project.
- A prospective co-sponsor will verify that the proposed research meets all of the criteria required of research carried out within the Department of EEB or MCDB.
- The faculty co-sponsor will review the research proposal and decide the appropriateness of the research. The co-sponsor will also confirm that the project is biological in nature, that it will help the student develop independence and is not simply a technical training exercise. (Note: Microbiology majors who elect to take MICRBIOL 399 do not need to find a co-sponsor, nor does a Neuroscience major who elects to take Psych independent study elections).
- *Research must be conducted on the U-M Ann Arbor Campus or its properties with a UM research-active faculty member.* (In rare instances, exceptions to this rule will be considered by the Bio. Committee.)

**Can I take an undergraduate research course offered in a different department?**

- If an external unit or department offers its own undergraduate research course, the student may elect it instead of EEB or MCDB 300 or 400. However, to be eligible for major credit, the project must be co-sponsored (as described above). If this option is chosen, the course may count as a cognate course for those majors that accept cognate courses as part of the major. (See individual major requirements.)
- Note that, per LS&A policy: Candidates for an A.B., B.S., or B.G.S. degree must complete a minimum 100 credits of LSA courses, allowing 20 credits of non-LSA course work in the minimum 120 required for the degree. Non-LSA credits in excess of 20 will be included in the calculation of a student's GPA, but will not be counted toward the 120 credits needed for a Bachelor's degree in LSA.

**Can I take the course pass/fall?**

- All research courses that will be used as part of a major must be assigned letter grades.

**Which course can I take?**

| *Course* | *Prerequisites:* |
|---|---|
| BIOLOGY 200 | None |
| BIOLOGY 299 | Interdisciplinary topic,* declared BHS Major, 8 or more BIO course credits |
| EEB or MCDB 300 | 8 or more BIO course credits |
| EEB or MCDB 400 | 12 or more BIO course credits, EEB/MCDB 300 |
| NEURO 360 | PSYCH 230 or BIOLOGY 222 or BIOLOGY 225; declared Neuro. major |
| NEURO 460 | MCDB 300 or NEURO 360 or PSYCH 326 or PSYCH 331; declared Neuro. major |
| NEURO 461 | Will be submitting a neuroscience senior thesis (honors or non-honors) during the semester. Student should also be registered for NEURO 460 or Psychology 422 unless all lab work has already been completed before the start of the semester. |

*Approved BHS interdisciplinary (BHS-ID) research students who wish to take BIOLOGY 299 for work with faculty outside of EEB and MCDB must be supervised (co-sponsored) by a member of the BHS student research committee (composed of EEB/MCDB faculty).
Contact lsa-biology-independentstudy@umich.edu with questions.

**Can I repeat the course?**

| Course | Max Credit Hours | | |
|---|---|---|---|
| BIOL 200 | up to 6 credit hours | Note that maximum of 3 credits will be applied toward the major (with the exception of the EEB major which allows 6) | *College of LS&A Policies*: A combined total of 30 credits of Experiential and Directed Reading/Independent Study courses may be counted in the 120 credits required for a degree. Experiential and Independent Study courses are excluded from area distribution plans. (https://lsa.umich.edu/lsa/academics/lsa-academic-policies/credit-limits.html) |
| BIOL 299 | up to 12 credits | | |
| EEB 300 | up to 9 credits | | |
| EEB 400 | up to 9 credits | | |
| MCDB 300 | up to 9 credits | If a student elects to take more than the major-approved number of credits of independent research, the extra credits will count towards the student's general pool of 120 credits required to graduate from LS&A. | |
| MCDB 400 | up to 9 credits | | |
| NEURO 360 | up to 9 credits | | |
| NEURO 460 | up to 9 credits | | |
| NEURO 461 | cannot be repeated | | |

**How many credits will count toward my major?**

| *Major* | *Max. Credits* | *Courses Eligible* |
|---|---|---|
| Biology | 3 | BIOLOGY 200 or EEB/MCDB 300 or 400 |
| Biology, Health, & Society (BHS) | 3 | BIOLOGY 200, 299, or EEB/MCDB 300 or 400 |
| Plant Biology | 3 | EEB/MCDB 300 or 400 |
| CMBS / MCDB | 3 | MCDB 400 |
| Microbiology | 3 | EEB/MCDB 400, MICRBIOL 399, EPID 399, or INTMED 499 (2nd term) |
| EEB | 6 | BIOLOGY 200, or EEB/MCDB 300 or 400 |
| Neuroscience | 3 | MCDB 300, 400, NEURO 360, 460, 461, or appropriate PSYCH course |

**What major requirements will the experience fulfill?**

| *Course Options* | *Credit Election* | *Major* | *Requirement* |
|---|---|---|---|
| BIOLOGY 200 | 1-3 | Biology, EEB | Additional Elective |
| BIOLOGY 299 | 1-3 | BHS | Additional Elective |
| EEB/MCDB 300 or 400 | 3 | BHS, Plant Biology | Lab |
| | | Biology | Lab, Upper-Level Elective |
| | | EEB | Lab, Research Experience |
| | 1 or 2 | Biology, BHS, Plant Bio., EEB | Additional Elective |
| MCDB 400 | 3 | CMBS / MCDB | Adv. Lab or Adv. Course |
| EEB/MCDB 400, MICRBIOL 399, EPID 399, or INTMED 499 (2nd term) | 3 | Microbiology | Additional Elective |
| MCDB 300, 400, NEURO 360, 460, or PSYCH option | 2-3* | Neuroscience | Lab |

* A student who elects MCDB 300/400 or NEURO 360/460 has the option of taking 2 credits to fulfill the requirement; otherwise the student must take 3 credits from one of the approved PSYCH courses.

**Credit Guidelines:**
Working on a research project typically includes time spent in the lab (or in the field for many EEB projects), time at lab meetings and research seminars, and time outside the lab spent on reading papers and doing data analysis. Students should expect to spend 4-5 hours per week over the semester working on the project per registered credit hour.

**Questions about your Lab or Research?**
Contact the Program in Biology (lsa-biology-independentstudy@umich.edu) at any time with questions or concerns about your research, including issues with your mentor, work hours, or research topics.
Drop-in questions in 2200 BSB are also welcome.

Updated: 10/7/24 kap