

Signing up for independent research credit (BIOL 388,388S, 389, 389S and 390)

INDEPENDENT RESEARCH PROJECT GUIDELINES

The Biology Department encourages students to participate in laboratory research (BIOL 388, 388S, 390) and/or library research (BIOL 389, 389S). Students may request to work with a Research Sponsor who is a faculty member in the Biology Department or a member of another department. Students planning to work with a Research Sponsor outside of the Biology Department must have a Biology faculty serve as their Biology Sponsor. The Biology Sponsor will determine the final grade after consulting the Research Sponsor's evaluation of the student's performance.

Beginning Fall 2026, students should use this online form to sign up for independent research: <https://forms.gle/P1iCjL6VBPjNdQnU9>

Independent Research Restrictions:

- Students may register for more than one BIOL research course number in the same lab during a single semester, but they must clearly be for different research projects.
- BS students cannot satisfy their BIOL 388S and BIOL 390 requirements during the same semester.
- Students may register for BIOL research credits and perform paid work in the same lab in the same semester, but the duties associated with each must NOT overlap.

Independent Research Definitions:

The Biology Sponsor is the faculty member within the Biology Department who will assign the final grade, may be different from Research sponsor

The Research Sponsor is the individual in whose lab you will be working.

Independent Research Project Guidelines for all independent research (BIOL 388, 388S, 389, 389S, 390).

1. **TIME COMMITMENT:** A student should work out with his/her sponsor a regular schedule of time devoted to the research project. (Some flexibility is allowed for variability in course workload.) The student is expected to spend a minimum of 9 hours per week (on average) in the laboratory (or library) to earn 3 credit hours, though sponsors may require more time than this.
2. **INPUT INTO PLANNING:** The student may be expected to help plan the research project or may be assigned a project. In either case, background reading provided by the Research Sponsor and discussions between sponsor and student should assure that the student thoroughly understands the specific project and its general significance.
3. **MEETINGS WITH SPONSOR:** The student should meet with his/her Research Sponsor (and Biology Department sponsor, if applicable) on a regularly scheduled basis (weekly or twice

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a month is suggested). This is particularly important for BIOL 389 and 389S to ensure that progress continues throughout the semester.

4. **RESEARCH SPONSOR RESPONSIBILITIES:** The Research Sponsor will be responsible for providing the appropriate training, resources (e.g. materials, equipment, etc.), and guidance to the student.

5. **BIOLOGY SPONSOR RESPONSIBILITIES:** If the student chooses an outside Research Sponsor, then the Biology Sponsor must ensure that the Research Sponsor fulfills their responsibilities as described above.

6. **FORMAT OF PAPER:** Students doing BIOL 388/388S and BIOL 390 must submit a paper in the format of a scientific journal research article. If results are incomplete, the paper can be a progress report, but should still be in research article format. **The Biology Sponsor will provide specific guidelines on the required format and deadlines for drafts.**

7. For BIOL 389/389S, the paper should be similar to a term paper or review article and the majority of the references should be primary research papers. It is suggested that a specific number of reference papers be discussed with the BIOL 389/389S sponsor at each regularly scheduled meeting, and that an outline of the paper be completed by mid-semester. It is also recommended that a first draft of the paper be submitted at least two weeks prior to the end of the semester so that revisions are possible.

8. **EVALUATION:** The Biology Department Sponsor will read the final paper and assign a grade. If the Research Sponsor is outside the department, he/she will complete an evaluation form for the benefit of the Biology Sponsor. Please note that BIOL 390 is graded on a pass/no pass basis only.

BIOL 388S / 389S Additional CAPSTONE Expectations.

1. **STUDENTS REGISTERING FOR BIOL 388S or 389S MUST REGISTER FOR THREE CREDITS.**

2. In addition to the final paper, a student must give a public presentation of his/her research: e.g. an arranged poster session featuring undergraduate research, a seminar open to faculty and students, or through some other approved medium, such as a regional or national scientific meeting at which research papers are presented. **The Biology Sponsor will provide specific guidelines for the expectations of the presentation.**

Undergraduate Biology research course attributes matrix (BIOL 388, 388S, 389, 389S, 390)

Y = yes

N=no

	Prereqs	Credits	Grades	Availability	Counts toward BIOL degree	Counts toward CWRU degree	SAGES capstone	Counts towards Honors Thesis in Bio	Bench or field research	Scholarly literature review with bibliography	Journal article format	Public presentation required (lecture or poster session)
BIOL 388	None	1 – 3	A – F or P/NP	Repeatable up to 3 credit hour maximum	Y only if A – F grades, N if P/NP	Y	N	Y	Y	Y	Y	N
BIOL 388S	None	3 only	A – F	Once	Y	Y	Y	Y	Y	Y	Y	Y
BIOL 389	None	1 – 3	A – F or P/NP	Repeatable up to 3 credit hour maximum	Y only if A – F grades, N if P/NP	Y	N	Y	N	Y	N	N
BIOL 389S	None	3 only	A – F	Once	Y	Y	Y	Y	N	Y	N	Y
BIOL 390	388 or 388S	1 – 3, but BIO-BS must be 3 for first time	P/NP	Repeatable	BIO-BA:N SYB-BS:N BIO-BS:Y for first time only, N thereafter	Y	N	Y	Y	Y	Y	N