**CONSIDERATIONS FOR RESEARCH WITH FACULTY**

[**Undergraduate Research Guide**](https://docs.google.com/document/u/0/d/1C2p5OMlQW5yI88bXrqasd0DyOqY-OAo3Eg9p09fm4U4/edit) **- FAQ**

**Research Labs and Programs of Interest on Campus:**

* **Madison Experimental Mathematics Lab -** [**https://mxm.math.wisc.edu/**](https://mxm.math.wisc.edu/)MXM is an undergrad for-credit program designed to introduce students to the world of mathematics research. Math research often requires extensive pre-work, so research assistant roles are difficult to arrange. Instead, MXM will give students exposure to common problems tackled by UW-Madison’s Math Research Faculty.
* **CS Research Groups at UW-Madison:** <https://www.cs.wisc.edu/research/research-groups/>
  + WISCERS (WI Science and Computing Emerging Research Stars) - <https://wiscers.cs.wisc.edu/> CS Department research internships and mentoring opportunities for undergrads
  + [Center for High Throughput Computing](https://chtc.cs.wisc.edu/)
* **Data Science Research Groups and Partners:** <https://datascience.wisc.edu/institutes-centers/>
  + Informatics Skunkworks - <https://skunkworks.engr.wisc.edu/> a group dedicated to engaging undergraduates in science and engineering informatics research
  + [Map of Data Science faculty](https://maps.datascience.wisc.edu/) and staff on UW-Madison Campus (also a cool data science map visualization!)
* **Statistics Department -- Faculty Research Interests:** <https://stat.wisc.edu/research-interests/>
* **Math Department Research Programs:** <https://math.wisc.edu/research-for-students/>
* **Physics Department - Faculty Research Areas:** [**https://www.physics.wisc.edu/research/**](https://www.physics.wisc.edu/research/)
  + While all areas of physics research use some data and computing, check out Machine Learning/AI and Quantum Computing for TDA-focused research.
* **Sociology Department Research Areas:** <https://sociology.wisc.edu/research-highlights/research-areas/>
* **Life Sciences Research Catalog - an excellent overall guide!**: <https://docs.google.com/spreadsheets/d/1B2l8u3RcrjFOEaUpAm2djQRO3P3LwDPsK-3xDEDp9cQ/edit#gid=836220015>
* **Geoscience Research Ce**[**Life Sciences Research Opportunity Catalog for Underrepresented Students**](https://docs.google.com/spreadsheets/d/1B2l8u3RcrjFOEaUpAm2djQRO3P3LwDPsK-3xDEDp9cQ/edit#gid=836220015)**nter:** <https://geoscience.wisc.edu/research/>
* **Psychology Research Areas:** <https://psych.wisc.edu/research/>
* **LASER (L&S Summer of Excellence in Research):** <https://cae.ls.wisc.edu/stem/> housed with CAE, this program places undergrad students with researchers in STEM fields for students at *Sophomore* and higher levels (24 completed credits on-campus).

**Other Research Groups on Campus** [(selected list)](https://docs.google.com/spreadsheets/d/1n3jDE2-n02J1gyVKYng7OhY-AV9yQL5nv5tpLRdECY4/edit#gid=0) (Full list of research centers is [here](https://research.wisc.edu/centers-cores/more-uw-research-centers-and-programs/))

**Personal Questions**

1. What are some classes/topics that I have loved, and how do those topics align with the industry I want to go into? WHY have I loved these topics?
2. Looking through the syllabi and textbooks of my previous classes, what are some themes or “burning questions” that are still with me today? What excites me about these questions? Have I shown interest in this area of study beyond the assigned class time and homework assignments?
3. Am I qualified to work with a professor? In what ways am I qualified? Why would a professor choose to mentor or collaborate with me?
   1. Hint: the answer to this question is usually *yes!* Required skills for undergraduate research work are more about enthusiasm and eagerness to learn, rather than defined skills.
4. What do I hope this opportunity will say about post-graduation? How do I want to talk about this opportunity with a future employer or graduate school?

**Logistics Questions**

1. Do some of my professors work in areas similar to my interests? How do I feel about working more closely with a faculty member?
2. Will the timing work out? When would I like to do a directed study with a professor? Will he/she be able to serve as a mentor during the semester I wish to pursue my own research opportunity?
3. Do I want to receive credit; do I want to receive a grade?
4. Do I have a question of my own I want to research or am I hoping to work with a professor on their department (i.e. Economics, Biology) research?

\*\* Research can come in many forms – the research topic may not always directly match with your major or career interests. That’s okay! When deciding which research opportunities to pursue, consider *what skills will I be developing in this work?* Unexpected

**How to Approach Professors**

1. Self-reflect by going through the personal and logistics questions
2. Determine whether searching for a research opportunity is what you really want and or need to support your career interests/goals
3. If you still want to participate in a research project with faculty, then learn more about the faculty and the faculty’s research project(s)
   1. Review faculty’s previous publications
   2. Review faculty’s profile via department’s website
   3. Review faculty’s LinkedIn profile
4. Connect with the faculty to request your participation
   1. Meet the faculty during their office hours
   2. Email the faculty