Welcome to the Undergraduate Research Community at UW-Whitewater

- If you have an interest in mentoring undergraduate researchers, UW-Whitewater is an excellent place to be.
- Our campus is fortunate to have both a strong tradition of undergraduate research and a well-developed research infrastructure.
- UW-W views undergraduate research as a vital component of a well-balanced liberal arts education.

Financial support, guidance, and cooperative mentoring resources are provided by the Chancellor, the Dean of Letters & Science, the Office of Sponsored Programs, and the Undergraduate Research Program.
What do your colleagues like about the UR at UW-W?

What is Undergraduate Research?

- Undergraduate research (UR) can take many forms.
- Essentially it is a guided mentoring experience for students who have an interest in pursuing intensive out-of-class learning opportunities.
- Across our campus, there is a great deal of variation in how mentors guide undergraduate researchers.

The experience of a particular undergraduate researcher will be shaped by the demands of a given project and by the personal preferences of that student and her or his mentor.
What Do You Need to Get Started?

• Because UR can take many forms, the list of necessary “ingredients” can vary widely, but here are a few items you will likely need.
  - One (or more) interested student(s)
  - One (or more) potential project(s)
  - Time
  - Equipment
  - Reagents
  - Financial support
  - Safety clearances (as applicable)

If you lack any of these items, you may wonder how you can get them.

Where do I find interested students?

• Potential researchers are all around you!
• Some are already aware of the value of UR.
• Others would need to have an interest in UR awakened in them.
• Potential ways to find students include:
  - Ask your colleagues for suggestions
  - Ask colleagues to send interested students your way
  - Make an announcement to student organizations
  - Post flyers on message boards in your building
  - Make an announcement in your classes
  - Keep your office door open

Should you accept every interested student into your research group?
Where did your colleagues find their students?

How many students do your colleagues mentor?
Selecting the most suitable students

- Once some interested students are identified, you may want to reflect on which ones would be the most suitable for you to work with.
- Mentors can only pay attention to a finite number of students at a given time.
- Since you can only accommodate a limited number of students, it makes sense to be somewhat selective.
- Several criteria can be used to identify the most suitable members of your research team.

What criteria have other campus mentors used to select students for UR?

How did your colleagues select their students?
What if things aren’t working out?

Have you ever had an undergraduate researcher that was so problematic that he or she had to be let go from your lab?

What projects are suitable for UR?

- Potential projects vary in several respects
  - Skills required
  - Time required
  - Funds required
  - Equipment and reagents required
  - Number of researchers required
  - Interest to mentor
  - Interest to specific undergraduate researcher(s)
  - Potential for publication
  - Potential to procure future funding

It’s often useful to weigh the skill level, schedule, and interests of available personnel when selecting a project.
How much time do your colleagues spend on UR per week?

Undergraduate Research Program Schedule

- Important Dates and Deadlines for the UWW Undergraduate research program can be found at [http://www.uww.edu/urp/Schedule.html](http://www.uww.edu/urp/Schedule.html).
- These dates include deadlines for undergraduate grant and fellowship applications.
- They also include deadlines associated with major meetings and other opportunities for the undergraduate researchers to present their work.

So what are the major events in an undergraduate researcher’s year?
A Typical Year in UR at UW-W

- **September** – Fall Grant Deadline for academic year funding.
- **October** – Grantee Orientation, Posters on the Hill deadline
- **November** – NCUR (National Conference on Undergraduate Research) Abstract Deadline
- **January** – NCUR registration, UWSA abstracts due
- **February** – UWW Undergraduate Research Day abstract due
- **March** – NCUR posters due, Summer Research Fellowship Grant Application Deadline
- **April** – NCUR Conference and Travel
- **April** – UWSA posters due and UWSA Symposium, UWW Undergraduate Research Day, Posters in the Rotunda, Posters on the Hill
- **May** – Spring Grant Deadline for academic year funding.

For complete and accurate details on UR events in a given year, please consult the URP website (http://www.uww.edu/urp/Schedule.html)

What do UR mentors spend most of their time doing with their students?

![Bar chart showing the percentage of time spent on various activities by UR mentors.](chart.png)
Especially Important Dates

• Important dates for mentors to remember are the fall and spring *grant application deadlines* and the deadline for undergraduate *summer fellowship applications* as these are opportunities to obtain funding of your student’s research.

• If a mentor’s undergraduate researcher is awarded a grant or fellowship, the dates for *undergraduate research day* and *NCUR* or *UWSA* become important as the researcher must attend undergraduate research day and either NCUR or UWSA.

Obtaining Equipment and Reagents

• Most equipment that will reside in your lab will be purchased with “start-up” funds.

• Your department also has some common use equipment (see your chair for details).

• An initial supply of reagents can also be purchased using start-up funds.

• Replacement reagents and other needed supplies for projects are generally purchased from grant funds.
Obtaining Financial Support

- Financial support can come from many sources, including:
  - Undergraduate research grants to student researchers (typically $500 per year or less)
  - Students completing honors theses can apply for up to $1,000 from the URP
  - Some student organizations or honorary societies have student awards (e.g., ΚΦΦ or Sigma Xi)
  - Funds from external sources are often partially matched by the College of Letters and Sciences
  - Long-term, stable funding for research projects may be procured from other federal funding agencies (e.g., DOE, NIH, NSF, or USDA)
  - Funds may also be procured from private sources (e.g., Merck Pharmaceuticals, The National Geographic Society)

Keeping the Learning Experience Safe

- Students vary widely in their degree of familiarity with methods, reagents, and equipment used in research.
- Inexperienced students may unwittingly engage in unsafe behavior while conducting research.
- Mentors have to anticipate potentially hazardous behavior, where possible.
- Additionally, they need to devise lab protocols that teach safe methodology.
- Many campus mentors bring with them considerable knowledge of safe practices and procedures.
- The UW-W research community offers a set of resources to assist new research mentors, as needed, in developing safe practices for their undergraduate research.
Safety Services at UW-W

- Safety Training: Several links that can help you learn basic safety issues.
- Vehicle & Driving Information: Driver authorization and procedures.
- Waste Management: Chemical and biological waste management, batteries, etc.
- Worker's Compensation: The Worker's Compensation Act provides benefits when at the time of injury the employee is performing service growing out of and incidental to his or her employment. Forms can be found on this page. [http://www.uww.edu/adminaffairs/riskmanagement/workcomp.html](http://www.uww.edu/adminaffairs/riskmanagement/workcomp.html)
- Ergonomic Assessments: Contact x1856 or via email at riskmgmt@uww.edu to schedule an assessment.

Resources Available to Campus Mentors

- Safety Forms
- Automated External Defibrillators
- Campus Safety Committee
- Continuity of Operations Planning
- Employee Safety
- Environmental Health & Ergonomics
- MSDS Collection
- Pandemic Influenza Information
- Risk Management
- UW-W Health & Safety Policies
Important Forms

- Safety and Health Hazard Reporting Form
  The data collected through this form will be used to help locate, evaluate, and resolve workplace safety hazards. This form is intended to be an anonymous method for reporting hazards.

- Indoor Air Quality Survey:
  Do you have any other comments regarding the indoor air quality in your work area?

- For protocols about research concerning human, animal, and plant subjects; please go to this link:
  [http://www.uww.edu/wwhdbk/HumanSubjects.htm](http://www.uww.edu/wwhdbk/HumanSubjects.htm)

- For any other safety concerns, please contact contact:
  Lance Fredrick  
  Director of Risk Management & Safety  
  E-mail: fredricl@uww.edu  
  Phone: (262) 472-5723  
  Fax: (262) 472-5668

A few final thoughts from current campus mentors
Is it rewarding for mentors?

What do you find most rewarding about working with undergraduates?

What about the downside?

Greatest Frustrations of Campus Mentors
How do we know how we’re doing?

What metrics are most suitable for evaluating the success of a research mentor?