

THE UNIVERSITY OF TOLEDO

Office of Undergraduate Research

Proposal Preparation Workshop

Dr. Jonathan Bossenbroek

Director - OUR

January 29



Contact Information



- Dr. Jonathan Bossenbroek
- Director OUR
- undergraduate.research@utoledo.edu
- MacKinnon Hall 2000
- 419-530-2983

http://www.utoledo.edu/honors/undergradresearch/



OURUT Research Programs

- Academic Year Research Program: AYRP
- First Year Summer Research Experience: FYSRE
- Research Travel Grant Program: Travel
- Undergraduate Summer Research & Creative Activity Program: USRCAP
- UT-City of Toledo Internship Program: Toledo Talent Keeps Toledo Great (TTKTG)
- Work-Study Research Program: WSRP



OURUT Research Programs

- Academic Year Research Program: AYRP
- First Year Summer Research Experience: FYSRE
- Research Travel Grant Program: Travel
- Undergraduate Summer Research & Creative Activity Program: USRCAP
- UT-City of Toledo Internship Program: Toledo Talent Keeps Toledo Great (TTKTG)
- Work-Study Research Program: WSRP



USR&CAP and FYSRE

The Undergraduate Summer Research and **Creative Activity Program (USRCAP) and First Year Summer Research Experience:** (FYSRE) are the main summer research programs and are open to all UT undergraduate students in all areas of research and/or creative activity at UT. These are competitive program that support research & scholarship by undergraduate students under the direction of a faculty member.



Undergraduate Research

The surprising thing Google learned about its employees — and what it means for today's students

- Top 8 Characteristics of success at Google (in order of importance)
 - being a good coach
 - communicating and listening well
 - possessing insights into others (including others different values and points of view)
 - having empathy toward and being supportive of one's colleagues
 - being a good critical thinker and problem solver
 - being able to make connections across complex ideas
 - STEM expertise.



Undergraduate Research

The surprising thing Google learned about its employees — and what it means for today's students

- Top 8 Characteristics of success at Google
 - being a good coach
 - communicating and listening well
 - possessing insights into others (including others different values and points of view)
 - having empathy toward and being supportive of one's colleagues
 - being a good critical thinker and problem solver
 - being able to make connections across complex ideas
 - STEM expertise.









• What do you call a passion without a plan?







• What do you call a passion without a plan?



• A HOBBY!





• What do you call a passion with a plan?







• What do you call a passion with a plan?



Research and Scholarship





Steps to getting involved research and creative activities:

- Step 1: Find a mentor
- Step 2: Develop an idea
- Step 3: Develop a proposal
- Step 4: Apply for funding
- Step 5: Plan your project
- Step 6: Present your work





Step 1: Finding a mentor



 Talk to your professors – Faculty members across campus are involved with research, scholarship and creative activities. Some faculty regularly have undergraduates as volunteers or paid technicians in their labs, which is a great place to start.



Step 2: Develop an idea

 Research and scholarship begin with ideas and questions. Your mentor can help you develop an idea. These ideas can be closely tied with the activities already being conducted by a faculty member or graduate student, or start a new direction for you and the faculty mentor.





Step 3: Develop a proposal



- A proposal lays the groundwork and defines the boundaries and scope of a project.
- Most importantly a proposal is the stage of research that forces clarity of the question and objectives and ensures that the means to address these issues is feasible in a timely manner.



Step 4: Apply for funding

 The Office of Undergraduate Research funds research and creative activities primarily focused on summer research.





OUR-UT Resources

MENU ≡

TOLEDO

APPLY VISIT

REQUEST INFO A-Z LIST

Q

OFFICE OF UNDERGRADUATE RESEARCH

HOME STUDENTS CALENDAR GIVE

GIVE CHOOSE OHIO FIRST

TALENT KEEPS TOLEDO GREAT

STUDENTS

Home

» Students

Funding

Present Your Research

Scholars' Celebration

RESOURCES

Jesup Scott Honors College

Center for Experiential Learning and Career Services

. . .

6 STEPS TO GET STARTED IN RESEARCH

STEP 1: FIND A MENTOR

Successful undergraduate research projects begin with finding a mentor. Talk to your professors. Faculty members across campus are involved with research, scholarship and creative activities. Some faculty regularly have undergraduates as volunteers or paid technicians in their labs, which is a great place to start. Talk to your lab instructors. Lab instructors are often a great place to start as they are typically graduate students and very connected to research activities. If you are unsure where to begin, talk to the Office of Undergraduate Research. We can help connect you. STUDENT RESOURCES Proposal Checklist Proposal Template Proposal Scoring Guidelines IRS W-9 Substitute Form Time Report Card Poster Resources Travel Grant Proposal Final Report Template Student Research Handbook



OUR-UT Proposal Template

Office of Undergraduate Research

Standard Proposal Template and Instructions

The grants awarded by the Office of Undergraduate Research (OUR) are intended to promote research and scholarly activities for the undergraduate students of the University of Toledo. This document provides the template and instructions for submitting a proposal to any of the OUR grant opportunities.

Content Guidelines - see Template for more details:

- Project Description 5 to 8 pages
 - What you propose to do.
 - How you propose to do it.
 - Why it is important.
- Timeline
- Budget & Budget Justification
- Academic Statement 1 to 2 pages
- Faculty Support letter Sent separately by Faculty mentor

Format Requirements:

- double spaced, 12-point or larger font size, 1-inch margins
- Headers and/or bullets to organize key elements, and page numbers may be helpful
- File type: Adobe PDF or Word document
- File Name: ProgramYear-Name (e.g., USRCAP2018-JohnDoe).

Proposal Evaluation:

Proposals submitted to the OUR will be assessed based on five categories.

- Intellectual merit (35%) The proposed research or creative activity should be a novel endeavor that ideally results in making a substantial contribution to your discipline, either through a manuscript, conference presentation, performance, or exhibition. As such, the proposal should clearly define how the proposed work relates to current literature or areas of exploration within your discipline. The rationale should also explain the relationship of your project to your faculty mentor's research program
- Broader community impact (10%) The student should clearly state how this project has the potential to impact the community-at-large.
- Academic Statement (15%) The student should describe why they are interested in the project and the value of the project to their academic and professional development.
- 4. Articulation/Description of the project (30%) The proposal and academic statement should be written in a manner that is easily understood to persons both within and outside of the field of research. Proposals that give the impression that they were written by their faculty mentor or heavily copied from existing theses, grants or publications, without much effort by the submitter, will be rated <u>LOW</u>.
- Faculty Support Letter (10%) The faculty mentor should assess the student's abilities to perform the project as described in the proposal and clarify how the proposed work aligns with their scholarly work. Sent Separately

SUBMISSION - Submit Proposal and Faculty Letter as PDF or DOC to: undergraduate.research@utoledo.edu.



Proposal Number:

Standard Research Proposal
[In MS Word: Double click on the boxes to check.]

OUR-UT Undergraduate Research Programs

Academic Year/Summer:

Name:				Date:		
Dept.:						
College:						
Period:	🗆 Fall	Semester	Spring Semester	□ Summer		
Research	Program:	□FYSRE	□STARS	□ <u>TolInterns</u> □Research Travel		
	□Other (Name);					
Internshi	ip Program: TolInterns	Other (Name);				
Requested Compensation: (Check all that apply)						
Expected (MM/YY	l Graduation Dat YY):	e	Requested Budget:	\$		
Proposa	l Title:					

rev. 5.1

Content Guidelines

- Project Description 5 to 8 pages
 - What you propose to do.
 - How you propose to do it.
 - Why it is important.
- Timeline
- Budget & Budget Justification
- Academic Statement 1 to 2 pages

 Formatting – See Template for Instructions





- Two areas of the Project Description
 - Intellectual Merit (Introduction, Objective/Hypotheses, Methods, Expected Results)
 - Broader Community Impact





 Focus on your Question, Objective, Goal or Hypothesis.

- There needs to be a <u>focal idea</u> that your proposal is built upon.
- Define this first!





- Focal Idea is the HEART of this Section
 - It is the first thing you should think about.
 - But doesn't come first in the proposal.





- Introduction
 - background, literature review, or sources of inspiration.
 - Explain the relationship of your project to your faculty mentor's research program
 - Basically, the argument for why your Focal Idea is important
- Focal Idea is the HEART of this Section





- Your introduction should have background, literature review, or sources of inspiration.
- Focal Idea is the HEART of this Section
- Describe your methods
 - How will you answer or address your idea/question?
 - Written for those outside your discipline





- Your introduction should have background, literature review, or sources of inspiration.
- Focal Idea is the HEART of this Section
- Describe your methods
- Expected results
 - Including how the project results will be disseminated





Intellectual Merit (Introduction, Objective/Hypotheses, Methods)

Broader Community Impact

- How does this project have the potential to impact the community-at-large?
- This is your opportunity to explain the significance of the research to a layperson, and should be free of jargon or overly technical language.





Intellectual Merit (Introduction, Objective/Hypotheses, Methods)

Broader Community Impact

References

- Style of references is your choice
- Proper citations are a necessary component to ETHICAL conduct of research.
- Not counted in the proposal page limit.





Content Guidelines

- Project Description 5 to 8 pages
 - What you propose to do.
 - How you propose to do it.
 - Why it is important.
- Timeline
- Budget & Budget Justification
- Academic Statement 1 to 2 pages





Timeline

- Describe the various steps or milestones you plan on taking to work on your project.
- For a summer project, describe how you perceive the project will progress during the ten weeks.
- Research and scholarship often diverge from an expected path, but planning a timeline helps you in making progress on your project.
- Helps the reviewers judge if the work is achievable in the allotted time.





Budget





UT Office of Undergraduate Research (OUR-UT) - Star	ndard Proposal Budget Fo	rm
Name (Last, First):		
Stinend (if available and amount)		\$
Supenu (n'avanable anu ambunt)		\$
Supplies (anticipated)		Amount
	TOTAL SUPPLIES:	\$
Travel (anticipated)		Amount
	TOTAL TRAVEL:	\$
Misc. Other Expenses (including conferences, publication, e	Amount	
	TOTAL MISC:	\$
TOTAL REQUEST (Supplies Travel miss):		ŝ

TOTAL REQUEST (Supplies, Travel, misc):

Example:





UT Office of Undergraduate Research (OUR-UT) Standard Proposal Budget Form

· · ·						
Name (Last, First):						
		_				
Stipend (if available and amount)		\$ 3,000				
• •						
Supplies (anticipated)						
Description	Amount					
Laboratory supplies for phosphorus testing	\$ 250					
	TOTAL SUPPLIES:	\$ 250				
Travel (anticipat	ed)					
Description	Amount					
	TOTAL TRAVEL:	\$0				
· · ·						
Misc. Other Expenses (including conferences, publication, etc anticipated)						
Description	Amount					
	TOTAL MISC:	\$0				
· · ·						
TOTAL REQUEST (Supplies, Travel, misc):		\$ 3,250				
• •						

Budget Justification



OFFICE OF UNDERGRADUATE RESEARCH THE UNIVERSITY OF TOLEDO • Clearly state why the budget items are being requested and needed for the project to be successful.

Academic Statement



UNDERGRADUATE RESEARCH THE UNIVERSITY OF TOLEDO

- Why you are eager to spend ten weeks of your life conducting *THIS* project
- Explain how what you propose to do will fit into your professional career aspirations.
 - Not just because it will add a line to your resume!

Writing Advice



UNDERGRADUATE RESEARCH

- Write in your own voice!
- Be clear about your Focal Idea, Question, Objective, etc.
 - The rest of the proposal hinges on this idea!
- Clearly describe:
 - What you propose to do.
 - How you propose to do it.
 - Why it is important.

Writing Advice



UNDERGRADUATE RESEARCH

- Have other students and your mentor review your proposal.
- Edit, edit, edit! (did I say edit?)
- MEET the DEADLINE!

- Intellectual merit (35%)
- Broader Impact (10%)
- Academic Statement (15%)
- Articulation/Description of the project (30%)
- Faculty support letter (10%)





- Intellectual merit (35%) The intellectual merit of the project should be evaluated on two primary factors: 1) The rationale for the project should be founded in the literature or a clear description of the inspiration or connection to scholarly work. The rationale should also contain a clear description of how this work is related to the mentor's research program. 2) The result of the project should be of high quality with the potential to be a manuscript, conference presentation, performance, or exhibition.
- **5** The rationale and potential for a high quality result are both strong.
- **4** Either the rationale or potential result is not of a quality expected for publication or exhibition without additional work.
- **3** The rationale has limited connection to recent scholarship and/or the potential result is likely to only make a limited contribution to the field.
- **2** The rationale is inconsistent or contains errors and/or the results are likely to have little potential to make a tangible contribution to the field.
- **1** The rationale contains serious errors and the results are likely to have little/no potential to make any contribution to the field.





• **Broader community impact (10%)** - The student should clearly state how this project has the potential to impact the community-at-large.

5 Has potential to make a substantial contribution to the community-at-large.

- 4 Has potential to make a contribution to the community-at-large.
- **3** Has potential to make a limited contribution to the community-at-large.
- **2** Has little potential to make a contribution to the community-at-large or contains errors.
- **1** Has very little/no potential to make any contribution to the community-at-large or contains serious errors.





 <u>Academic and professional development (15%)</u> - The student should describe why they are interested in the project and the value of the project to their academic and professional development.

5 Student provides an excellent description of their interest in the project and why it will fit into the student's career aspirations and their academic program.

4 Student provides a good description of their interest in the project and why it will fit into the student's career aspirations and their academic program.

3 Student provides a satisfactory description of their interest in the project and why it will fit into the student's career aspirations and their academic program.

2 Student provides a poor description of their interest in the project and why it will fit into the student's career aspirations and their academic program.

1 Student provides an unacceptable description of their interest in the project and why it will fit into the student's career aspirations and their academic program.





- Articulation/Description of the project (30%) The proposal and academic statement should be written in a manner that is easily understood to persons both within and outside of the field of research.
 Proposals that give the impression that they were written by their faculty mentor or heavily copied from existing theses, grants or publications, without much effort by the submitter, will be rated LOW.
- **5** Project and statement are easily understood to persons both within and outside of the field.
- **4** Project and statement are understood to persons both within and outside of the field with some effort.
- **3** Project and statement are written for persons within the field but difficult for persons outside the field to comprehend.
- **2** Project and statement are difficult to understand for persons both inside and outside the field.
- 1 Project and statement are nebulous and/or difficult to understand for persons both inside and outside the field.





• **Faculty support letter (10%)** - The faculty mentor should assess the student's abilities to perform the project as described in the proposal and clarify how the proposed work aligns with their scholarly work.

Faculty support letter describes the student's ability to perform the project in the proposed time frame as excellent.

- Faculty support letter describes the student's ability to perform the project as above average.
- Faculty support letter describes the student's ability to perform the project as sufficient.
- Faculty support letter describes the student's ability to perform the project as minimal.
- Faculty support letter describes the student's ability to perform the project as poor.





Dates for summer propsals



- January 29 & 30 Proposal Workshops –
- February 22 Proposals due!
- February 22 Letters due!
- Early April Offers of Acceptance sent out.
- April Paperwork
- May/June/July Conduct project



Steps to getting involved research:

- Step 1: Find a mentor
- Step 2: Develop an idea
- Step 3: Develop a proposal
- Step 4: Apply for funding
- Step 5: Plan your project
- Step 6: Present your work





Step 5: Plan your project

- When your project gets funded create a research plan that can be accomplished in the time frame of the grant.
 - Part of this should be complete through the proposal process.





Step 6: Present your work

- Late November Scholar's Celebration
 - Hosted by Carlson Library
- NW Ohio Undergraduate Research Symposium
 - 2019 BGSU April ???
- Anytime OUR-UT helps support travel to present at conferences





Here to help! Contact Information



- Dr. Jonathan Bossenbroek
- Director OUR
- undergraduate.research@utoledo.edu
- MacKinnon Hall 2000
- 419-530-2983

http://www.utoledo.edu/honors/undergradresearch/

