

Undergraduate Research Grant Package Guidelines

The following materials are required for your grant package to be complete. Each page must be typed, in 12-point Times New Roman font, single-spaced, with 1-inch margins. The timeline can be double spaced. **The entire grant package must be combined into a single pdf and uploaded into FluidReview as one file, titled “Last Name of applicant First Name initial SemesterYear.”** The Faculty Mentor Letter of Support may be uploaded into FluidReview or emailed separately from the grant package, and is not included in the maximum number of pages. Grant packages that do not adhere to this format or are incomplete will not be reviewed.

1. Undergraduate Research Grant On-line Application

2. **Grant Package Proposal (maximum 6 pages):**

Includes Project Description, Timeline, Budget, Justification and References

- a) **Project Description (2 pages total):** Describe the project for which you are requesting funds. The project description, must be clear and concise and include the following:
 - *Purpose/Project Summary:* Clearly state the research focus or question and the importance and value of the research project.
 - *Background:* Some brief background information on the research study, including a relevant literature review (e.g., what has already done in the field related to your research topic/question).
 - *Methodology:* A brief overview of the methods or approach that will be used to complete the study.
 - *Anticipated outcome(s):* Provide expected results/outcomes and identify how they make an original intellectual or creative contribution to the discipline or practice.
- b) **Timeline (1 page):** Please include a detailed timeline for completing the majority of the project successfully during the grant funding cycle. Include the expected start date, specific steps involved to conduct the study, completion date, presentation at a FAU Research Symposium, and anticipated graduation date. Your timeline must be both systematic and realistic. Please note that the timeline may not exceed 12 months from the start date and must be completed prior to your graduation as an undergraduate student.
- c) **Budget and Budget justification (1 page) – please see sample budgets provided (Appendix C):** Prepare a line-item budget for all funds being requested. **For each item**, indicate details of the specific item requested, quantity needed (consistent with methodology), cost, and where the items will be purchased (supplier) with a website link if appropriate to the item itself. For the budget justification, provide a narrative explanation of each of budget item, which "justifies" the cost in terms of the proposed work. The explanations should focus on how each budget item is required for the completion of the project. If budget exceeds allowable grant amount, please explain how the overage is to be funded.

Examples of allowable expenses include, but are not limited to:

- costs for laboratory, artistic supplies, software and databases, and small equipment that are not readily available in your area/department/college.
- travel to offsite locations to conduct research, such as archives, libraries, companies, museums, or collections containing materials relating to the research topic;

- photocopying of research-related materials or purchase of books not otherwise available at or through the University Library.
- program fee costs associated with a research-intensive study abroad program to include materials and supplies needed to conduct the research abroad.

Examples of non-allowable expenses include, but are not limited to:

- costs associated with attendance or presentations at professional meetings;
- stipends, living expenses, tuition or laboratory fees of the grant recipient;
- research costs normally associated with department/college budgets (e.g., computers or laptops for use at FAU);
- costs associated with the external funding of the student's faculty advisor for research in the same general area;
- the hiring of assistants or other external services;
- lessons or costs associated with professional development.

Note: FAU's Student Government Association (SGA) has funds available for conference travel and for presentations at professional meetings. See their website ([click here](#)) for more information.

- d) **References (1 page):** At the end of your project description, please include a comprehensive list of references related to the research topic. Make sure to include primary references.
- e) **For Group Proposals:** One member of the group must complete all of the above listed components of the grant package. In addition, a justification of what each group member will contribute to the project must be made in the form of a **one page (maximum) supplemental** document. Each group member must have a clear role/task supporting the overall research question(s).

3. Faculty Mentor's letter of recommendation: The Faculty Mentor's letter can be uploaded into FluidReview, or emailed separately (from the grant package). An FAU Faculty Mentor's guideline has been developed to facilitate the completion of this recommendation letter. Please see Appendix D for letter format and requirements.

Grant package guidelines have been adapted with permission from UCF's Undergraduate Research Grant 2013 application.

APPENDIX A: Grant Maturity

Exploratory - Beginning or Exploring a new research idea, NOT expanding an ongoing project in a new direction (see below for that)

Developing - Further Developing or Expanding the scope of a project, where the project has likely been ongoing for less than one calendar year (at the time of submission of this grant package)

Advanced - Research projects that have likely been ongoing for more than one year (at the time of submission of this grant package)

APPENDIX B: Research Compliance Information

About IACUC

Florida Atlantic University's Institutional Animal Care and Use Committee (IACUC) has been established in accordance with the Animal Welfare Act and Public Health Service Policy on the Humane Care and Use of Animals. The committee is composed of individuals dedicated to the humane care of animals used in research and teaching, and provides oversight and assistance in ensuring compliance to all laws, regulations, and policies governing the care and use of research and teaching animals. FAU's IACUC is composed of scientists, non-scientists, veterinarians and community members who are appointed by the Vice President for Research, the Institutional Official responsible for the animal care and use program. FAU's animal care and use program is regulated by both the U.S. Department of Agriculture and the U.S. Public Health Service. University faculty, staff, and students using animals in research, teaching or display must have IACUC approval to do so.

About IRB

Florida Atlantic University's Institutional Review Board (IRB) is a federally mandated committee that oversees the ethical conduct of human subjects research at an institution. Florida Atlantic University's IRB serves an important role in the protection of the rights and welfare of human subjects involved in research. The IRB reviews and approves protocols for research involving humans and ensures that appropriate steps are taken to protect their rights and welfare. FAU's IRB is comprised of faculty members representing a variety of backgrounds, training and experience, as well as community members who are appointed by the Vice President for Research, the Institutional Official.

If your research meets the following two definitions then you are involved in research with human subjects: "Research" means a systematic investigation designed to develop or contribute to generalizable knowledge. "Human subject" means a living individual about whom an investigator conducting research obtains: 1.) data through intervention or interaction with the individual, or 2.) identifiable private information.

Institutional Animal Care and Use Committee (IACUC)		Institutional Review Board (IRB)
Include but are not limited to: <ul style="list-style-type: none">• Rodents (mice, rats)• Marine Mammals• Sharks• Fish• Birds• Non-human primates• Turtles and Tortoises• Rabbits	Subjects that do not need IACUC approval include but are not limited to: <ul style="list-style-type: none">• Amoebas• Clams• Drosophila melanogaster (fruit fly)• In vitro cell preparations using established cell lines• Insects, worms, jellyfish, starfish	Human subjects research can take many forms. Some examples include: <ul style="list-style-type: none">• Interviews• Surveys• Focus groups• Medical chart reviews• Participant observation studies• Data and tissue banks• Clinical or exercise studies

For more information visit FAU's Research Integrity website at the following link:
<https://www.fau.edu/research/research-integrity/>

About EHS

The goal of Florida Atlantic University's [Environmental Health and Safety](#) is to provide and ensure a safe and healthy environment for students, faculty, staff and visitors through comprehensive service oriented programs. EH&S is also the primary contact for federal, state, and local regulatory agencies regarding matters of health, safety and the environment.

With regard to Undergraduate Research, undergraduate research compliance checks will be limited to training requirements, and any occupational health program requirements, i.e. bloodborne pathogens (HBV vaccination), respiratory protection (doctor's clearance), etc. related to the research to be completed. Additionally, during compliance checks of research laboratories EH&S will ask for a list of all personnel in the lab so that training status can be verified.

Many safety training courses are available online through EH&S to assist in developing safety skills that will help when conducting research when using animals, chemicals, biological materials and much more. For more information on which training classes are required, please review the [EH&S Course Matrix by Work Type](#) found [here](#). The descriptions of the [training programs](#) are available on the website.

Questions to ask about your research project to determine if you may need EH&S review/certification/trainings:

1. Does your research involve [radioactive materials, X-rays or lasers](#)?
2. Does the project involve [Diving, Snorkeling or the use of Boats](#)?
3. Does the project involve the use of [Hazardous Chemicals or Nanomaterials](#)?
4. Does the project involve the production of [flame, smoke or heat or any combination of the three](#)?
5. Does the project involve field work (contact ehs@fau.edu)?
6. Does the project involve the use of chartered Helicopters or Airplanes (contact ehs@fau.edu)?

About IBC

The Institutional Biosafety Committee (IBC) has been delegated the authority to set University policy with regard to biological and recombinant DNA safety. The IBC must comply with the National Institutes of Health (NIH) Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules. The IBC is responsible for overseeing the use of all biological agents and recombinant DNA methods employed in research and teaching projects on Florida Atlantic University's campuses. If your research involves the use of Recombinant DNA, Biological Materials/Agents/Toxins, or Select Agents, please contact ehs@fau.edu for further assistance. [About IBC](#)

APPENDIX C: Sample Budgets and Justifications

Budget Sample 1:

Sample Line-Item Budget

Item description	Supplier	Price	Quantity Needed	Total List Price
Pre-coated PAMPA Plate System	BD Biosciences	\$390.11/ 5 pack (96 wells/pack)	1	\$390.11
Propranolol hydrochloride $\geq 99\%$ (TLC), powder	Sigma-Aldrich	\$31.10/1 gram	1 gram	\$31.10
Lucifer Yellow CH dilithium salt	Sigma-Aldrich	\$132.00/25mg	25 mg	\$132.00
TOTAL COST				\$553.21

Budget justification:

1. PAMPA Plate System: My research pertains to the findings of peptides that permeate through a cell membrane. Therefore, I require a parallel artificial membrane permeability assay “PAMPA”, to test the penetrating capabilities of the peptides separated by high performance liquid chromatography “HPLC”. After I separated the conotoxins, we established approximately 2000 samples. Approximately half of these samples registered were hydrophobic. These hydrophobic peptides are what I am interested in testing through Pampa. I have identified approximately 900 peptides as being hydrophobic, and I already have one PAMPA package which contains 5 plates that have 96 wells per plate. This gives me 460 wells that I can place samples into for testing. But this would only be enough to test half of my hydrophobic samples. It is imperative that I have another PAMPA package so I can test all of the samples identified as hydrophobic. I need so many wells because every sample has to be separated and tested individually in order to specifically see which sample has the potential to penetrate a cell membrane.
2. Lucifer Yellow: I need the chemical compound Lucifer yellow to act as one of my controls. This compound is used specifically as a non-permeable control group.
3. Propranolol hydrochloride: Contrary to the Lucifer Yellow I have Propranolol Hydrochloride as our other control due to its ability to penetrate cell membranes because of its lipophilic characteristics. These two controls are needed so I know that the pampa's artificial membrane is working properly and allowing only compounds that are permeable to pass through the membrane and inhibiting all non-permeable compounds from passing through the membrane.

Overage:

Since the total request goes over the allocated \$500 budget, my research advisor has committed to providing the additional \$53.21 in materials as evidenced by his letter of recommendation.

Budget Sample 2:

Items description	Supplier	Quantity	Price
GPS-Garmin ETrex 20	Forestry Suppliers	1	199.95
Suunto KB-14 Azimuth Compass Zone 1	Forestry Suppliers	1	99.95
Millimeter graph paper	Forestry Suppliers	1 pack	15.00
ArcGIS annual license	ESRI	1	100.00
Field notebook	Forestry Suppliers	1	15.00
Total amount requested:			429.90

Budget Justification

1. GPS-Garmin ETrex 20: The GPS Grmin ETrex will be purchased and used for collecting spatial data for mapping research sites.
2. Suunto KB-14 Azimuth Compass Zone 1. Since much of the research will involve navigating through research sites and will be used for orienteering & walking survey transects
3. Millimeter graph paper: will be purchased for data collection and for drawing maps
4. ArcGIS annual license: This individual student license will be purchased as software used in the discipline for making project maps.
5. Field notebook: I will purchase a field notebook for data collection on-site of field notes.

Generic Budget Sample 3: for travel to research site.

Items Needed	Vendor	Quantity	Price	Budget Justification
Round trip airfare to _____	FAU Travel service	1	215.00	Travel to research archive
Hotel	Days Inn	1	160.00	Lodging (4 nights) while working at archive
Photocopying	Archive	100	10.00	Copies of critical documents
Total amount requested:			385.00	

APPENDIX D: Faculty Mentor's Letter of Recommendation Requirements

Dear Faculty,

Your undergraduate student is applying for an Undergraduate Research Grant program to support their project. We need your assistance in writing a letter of recommendation so that the selection committee is better able to judge the grant package guidelines received. Please ensure that your letter addresses the following:

1. The importance of the research and how it contributes to the student's development and to the discipline or practice
2. The feasibility of the proposed project and timeline presented (evaluation of the project)
3. The maturity of the research project (Exploratory, Developing, or Advanced – Appendix A)
4. The capability of the student in pursuing and completing the research in the time-frame identified (evaluation of the student)
5. Your willingness to provide oversight of the project including meeting with the student regularly during the course of the research project and reviewing their work in preparation for presentation at the Annual Undergraduate Research Symposium
6. The justification of funding as it applies to its impact on this specific project and assurance that no other funding is available or an explanation of current funding for the project. For example, how will the grant support parts/all of the project not covered by any grants available to the faculty mentor?
7. **Requirement – Certification of Research Compliance** is required if the intended research includes methodology involving an area regulated by Federal, State or University laws and policy (including the use of human or animal subjects, diving and boating safety, work carried out in a wet-lab involving the use of chemicals and/or potential blood-borne pathogens).
Note: If this project includes methodology involving an area of compliance listed above, the faculty member must certify in the letter that:
 - a. **Their area(s) of content expertise related to this undergraduate student research project or identify and include a third party faculty to provide the expertise necessary to mentor this student. Please include the name and email address of this faculty expert in your letter;**
 - b. **The student(s) is included in all appropriate compliance protocols and provide protocol number in your letter; and**
 - c. **The student(s) has been properly certified through appropriate EHS training and provide certificates, if applicable.**

Once you have completed your letter, please provide it to your student to include with their online grant application, or send it directly to jsoberon@fau.edu by October 15th for Spring/Summer proposals or March 15th for Summer/Fall proposals. Should these dates fall on a weekend day or holiday, the deadline will become the next business day.

Thanks so much for your mentorship of this student(s) and your efforts towards growing a culture of undergraduate research and inquiry at FAU.

Sincerely,
The *OURI* Team