**Facilities & Other Resources**

Instructions: Remove all blue text after completing this attachment. Upload this attachment as a PDF to Kuali.

Content:

Describe how the scientific environment in which the research will be done contributes to the probability of success (e.g., institutional support, physical resources, and intellectual rapport). In describing the scientific environment in which the work will be done, discuss ways in which the proposed studies will benefit from unique features of the scientific environment or from unique subject populations or how studies will employ useful collaborative arrangements.

If there are multiple performance sites, describe the resources available at each site.

Describe any special facilities used for working with biohazards and any other potentially dangerous substances. Note: Information about select agents must be described in the Research Plan, Select Agent Research.

For early stage investigators (ESIs), describe institutional investment in the success of the investigator. See NIH's New and Early Stage Investigator Policies. Your description may include the following elements:

* resources for classes, travel, or training;
* collegial support, such as career enrichment programs, assistance and guidance in the supervision of trainees involved with the ESI’s project, and availability of organized peer groups;
* logistical support, such as administrative management and oversight and best practices training;
* financial support, such as protected time for research with salary support.

**FACILITIES:**

Southern Illinois University Edwardsville (SIUE)’s 2021-2026 Strategic Plan’s *Goal 4: Research, Creative Activities and Partnerships* seeks to build collaborative opportunities to expand research, scholarship and creative activities through internal and external partnerships that fulfill our mission. Under this goal, the SIU System has five objectives:

* Objective 1: Increase the quantity and quality of SIU’s research and creative activities to significantly contribute to knowledge in ways that have both a regional and global impact.
* Objective 2: Promote system and external partnerships to result in broader, more impactful research and creative activity.
* Objective 3: Leverage resources across the system to ease collaboration, reduce administrative burden, and improve compliance, resulting in a higher quantity and quality of grant and contract submissions.
* Objective 4: Develop public relations mechanisms to increase campus, public, and governmental awareness of campus and system research and creative activities.
* Objective 5: Strengthen current SIUC-SIUE cooperative Ph.D. programs (History, Computer Science, Environmental Resources and Policies, and Pharmacology and Neurosciences) and expand to include additional programs.

In support of the University’s commitment to this goal and enhancing the research environment, SIUE has invested more than $300 million to modernizing its educational and research spaces and has made additional substantial investments updating educational and research equipment.

In that time, SIUE has built:

* The Biotechnology Laboratory Incubator to support the Department of Biological Sciences, the Department of Chemistry, and the School of Pharmacy and house SIUE’s Laboratory for Spatial Analysis, which is a unique interdisciplinary resource that provides geographic imaging systems (GIS) capabilities to use in large-scale mapping studies of socioeconomic and environmental factors that impact health and welfare.
* Science Building West, opened in 2013, with state-of-the-art labs for biology and chemistry research, including a 300-square-foot aquarium room and 1800-square-foot vivarium.
* The SIU System School of Dental Medicine has invested $8.5 million on the new, 17,390 square foot Advanced Care Clinic. Within this new facility, there are 16 clinical chairs and two dental surgery suites with a common area where students can gather to collaborate.

In addition, SIUE has committed more than $100 million to the construction of a new Health Sciences Building. The facility will include approximately 221,000 square feet and will house a multitude of health sciences disciplines, including the School of Pharmacy (SOP), a School of Nursing (SON), the Department of Applied Health. The Health Sciences Building will provide modern classrooms, teaching and research laboratories, faculty offices, administrative spaces, and student resource and study spaces. It would also increase SON student capacity and increase the size of the SON Simulation Laboratory.

Laboratory

Individual faculty research labs in the Science, Engineering and Pharmacy Buildings are ~600 ft2 and normally have an attached office space for research students. Academic departments have dedicated laboratory classrooms for specific courses as well as shared instrument rooms with specialized equipment. An Electronics Shop and Machine Shop are available on campus.

The table below shows the approximate research and clinical space available for the largest biomedical and biobehavioral disciplines.

|  |  |  |  |
| --- | --- | --- | --- |
| Location | Units | Research Laboratory Space (ft2) | Clinical Space (ft2) |
| Alton | School of Dental Medicine |  16,421 |  14,360 |
| Alumni Hall | School of Nursing |  5,537 |  735 |
| University Park | School of Pharmacy |  7,786 |  |
| Founders Hall | Department of Psychology |  1,438 |  2,919 |
| Science Building West  | Departments of Biological Sciences and Chemistry |  56,642 |  |

Clinical

The following clinics are available at SIUE. They are overseen by qualified, experienced faculty. They are open to SIUE faculty, staff, and students as well as community members.

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| --- | --- |
| Unit | Clinic |
| School of Dental Medicine | Dental Clinic |
| Department of Psychology | Attention and Behavior Clinic |
| Department of Kinesiology and Health Education | Weight Management Clinic |
| Department of Kinesiology and Health Education | Physical Activity Clinic |
| Department of Special Education and Communication Disorders | Speech, Language, and Hearing Clinic |
| East St. Louis Center | Dental, Eye, and Community Nursing Clinics |

**OTHER RESOURCES:**
Provide any information describing the other resources available to the project. Identify support services such as consultant, secretarial, machine shop, and electronics shop, library resources and the extent to which they will be available for the project. Include an explanation of any consortium/contractual arrangements with other organizations. One may also include institutional programs available for the team to access, such as undergraduate research programs, outreach programs with which the team can connect.

**Computer:**Individual project team members have computers with word processing, database, spreadsheet, presentation, file sharing, and reference management applications.

**Offices:**

All project staff members have the necessary office space and access to Internet, e-mail, phone, photocopying, printing, and library services. Thoroughot campus, multiple conference rooms with teleconferencing and video conferencing are available. Locked cabinets and a dedicated, off-network computer are available for secure storage of confidential data.

**Conference Rooms:**

Rooms for project meetings are available campus wide.

**Information Technology Services:**

Information Technology Services (ITS) at SIUE provides a robust technological infrastructure and related resources necessary to support the proposed grant activities. ITS offers a number of in-person and online services to ensure the success of faculty and students, including a Help Desk with 24/7/365 coverage to support the University's learning management system (Blackboard) and other instructional technologies. The unit employs computer technicians, network specialists, database administrators, customer service representatives, and others who comprise a comprehensive technical support system for SlUE students, faculty, and staff working with various teaching and learning technologies and activities.

ITS also provides faculty and staff with instructional design consultants and services through the auspices of the Instructional Design and Learning Technologies group (IDLT). In particular, this group works closely with faculty to design and develop effective courses in online (100% of course activities are online) and blended (between 33% - 99% of activities are online) formats, including “flipped” approaches to teaching that are the focus of this proposed research.

Faculty have access to the hardware and software necessary to effectively build and manage online learning environments, including updated lap top and desktop computers; common productivity software, such as Microsoft Office 365 (including online applications and cloud storage); a student information system that integrates with Blackboard; high definition web cams and microphones to use with state-of-the art web conferencing solutions (e.g., Zoom), for recording asynchronous resources or for offering synchronous meetings including lectures, presentations, and virtual office hours; and any updates or plugins necessary to maintain functionality over time. ITS offers students access to course specific software from anywhere, using V Lab, a virtual service that allows software to be utilized from anywhere that has a network connection.

Animal

SIUE has the following four compliant animal care facilities.

* Science Building West. This state-of-the-art, brand new facility includes a 300-square-foot aquarium room and 1800-square-foot vivarium. There are five animal holding rooms, two behavior observation rooms, one procedure room, one preparation and cage washing room, and one storage room. Special features include a cage washer, autoclave, separate procedure room, programmable lights and temperature, central air supply for aquarium room, positive pressure in holding rooms to keep pathogens out, and video security system. Animals that are currently studied include mice (store-bought and genetically modified), freshwater fishes (wild-caught), freshwater invertebrates (wild-caught), frogs (at all developmental stages, native and store-bought), and lizards (wild-caught and store-bought).
* School of Pharmacy. The School of Pharmacy has a total lab area of 850 sq. ft. It includes a 100-square-foot facility with a state-of-the-art surgical area and self-contained animal modules (SCAM) where rats are housed. An 80 square-foot facility holds a multi-level SCAM where mice are housed. The modules are constructed of Plexiglas and contain a special ventilated caging system where air going into the cages is ventilated by HEPA filters as is the air exhausted from the cages into the room (Lab Products, RAIR HD Super Mouse 750™ Ventilated Micro&#8208;Isolator® Unit).
* Department of Kinesiology. A 47.9-square-foot state-of-the-art surgical area and SCAM are located in the Vadalabene Center where mice are housed. The modules are constructed of Plexiglas and contain a special ventilated caging system where air going into the cages is ventilated by HEPA filters as is the air exhausted from the cages into the room.
* School of Dental Medicine. The 500 square-foot animal care facility at the School of Dental Medicine has recently been updated with a new cage washer, anesthesia chamber and a room with a controlled light source. Currently, rats and mice are housed in this facility.

Other

*Ethical Compliance Program*

SIUE has a fully compliant ethical compliance program that operates out of the Office of Research and Projects within the Graduate School. The following review committees have well-established procedures and well-trained members with the expertise and experience necessary to carry out their duties.

* Institutional Animal Care and Use Committee (IACUC). All research involving the use of animals must be reviewed and approved by the IACUC. The IACUC conducts semi-annual program review and facility inspection, as required by the Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals, the *Guide for the Care and Use of Laboratory Animals* 8*th* Edition, and the Animal Welfare Act regulations, as applicable. All personnel participating on projects using animals must complete the Collaborative Institutional Training Initiative (CITI) online training for the care and use of animals in research. The IACUC ensures that laboratory animals receive humane care and the use of treatment in accordance with the highest ethical standards, laws, regulations and policies governing animal research. The IACUC reviews and, if warranted, addresses any animal-related concerns raised by the public or any SIUE employee or student. The IACUC consists of eight members, including a veterinarian, a community member who is not affiliated with SIUE, one member who is classified as a non-scientist, and five members who are classified as scientists.
* Institutional Biosafety Committee (IBC). All research and educational activities involving the use of biohazardous materials must be reviewed and approved by the IBC. Biohazardous materials include any infectious agent presenting a risk or potential risk to the well-being of man or animals, either directly through infection or indirectly through disruption of the environment, including bacteria, fungi, parasites, viruses, rickettsiae, tumor cell lines, and recombinant DNA. Personnel participating on projects using biohazardous materials must complete training to ensure the safe handling of the materials. The IBC is composed of six members—four SIUE faculty and staff from various disciplines and two non-affiliated members from the local community.
* Institutional Review Board (IRB). All research involving the use of human subjects must be reviewed and approved by the IRB. All personnel involved in human subject research must complete CITI human subject training. Both thesocial-behavioral and Clinical IRBs assure that all of the following conditions exist: risks to subjects are minimized; risks are reasonable in relation to benefits, if any, to subjects and to advancement of knowledge; selection of subjects is equitable; informed consent will be sought; informed consent will be documented; where appropriate, the research plan makes adequate provision for monitoring the data collected to ensure safety of subjects; there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of data; where any of the subjects are likely to be vulnerable to coercion or undue influence, additional safeguards have been included in the study to protect subjects. The IRB consists of nine members with varying backgrounds to promote complete and adequate review of research activities commonly conducted by the institution and has the professional competence necessary to review the specific research activities assigned to it.
* Financial Conflict of Interest Committee (FCOIC). Investigators on all proposals to and awards from funding sponsors that require compliance with PHS FCOI regulations must submit financial disclosures to the FCOIC and complete CITI FCOI training. The FCOIC reviews all investigator and sub-recipient investigator financial disclosures to determine if a significant FCOI exists plus develops and implements management plans as needed to manage FCOIs. The committee is composed of seven faculty members representing the units primarily impacted by the FCOI regulations (i.e., units with biomedical and biobehavioral research).

*Office of Research and Projects (ORP)*

The SIUE ORP consists of pre-award, post-award, and compliance staff. Support includes assistance with finding funding opportunities and internal and external collaborators, interpreting guidelines and regulations, developing and managing budgets, negotiating confidentiality agreements and contracts, preparing and executing subawards, and navigating compliance processes. ORP also provides education and outreach to faculty and staff internal funding to support scholarly activities.

**SIUE Student Profile:**

Southern Illinois University Edwardsvilleis a student-centered educational community dedicated to communicating, expanding and integrating knowledge. SIUE is one of two institutions that comprise the SIU System, with a School of Dental Medicine in Alton and a Center in East St. Louis. In a spirit of collaboration enriched by diverse ideas, our comprehensive and unique array of undergraduate and graduate programs develop professionals, scholars and leaders who shape a changing world.

SIUE serves traditional college-aged undergraduate students, with many commuting from the surrounding areas, as well as older, part-time, and minority students. The campus offers a balance of instruction, research, and public service programs consonant with its role as the only public university in southwestern Illinois. Twenty-four percent (24%) of the student population have household incomes below $30,000 and 33% receive federal Pell grants.

SIUE students are a unique blend of undergraduate, graduate, and professional degrees. As noted in the institutional Mission Statement, “…our comprehensive and unique array of undergraduate and graduate programs develops professionals, scholars and leaders who shape a changing world.” <http://www.siue.edu/about/mission.shtml>. All units on campus encourage and feature many student-focused programs that enhance student learning and research experiences.

One program of note is the Undergraduate Research and Creative Activities (URCA) Program <http://www.siue.edu/urca/>. The URCA Program at SIUE encourages, supports (including financially), and enables students to participate in research and creative activities at the undergraduate level. An undergraduate research or creative activity experience enhances the quality of the baccalaureate experience by giving students opportunities to engage in scholarship, to interact with faculty, and to connect more fully in the educational process of discovering and creating. In cooperation with the academic departments at SIUE, the URCA Program recruits eligible students as URCA Associates and URCA Assistants.

Students at the School of Dental Medicine experience opportunities involving hands-on experiences with helping approximately 8,000 patients per year in a main clinic located at the school in Alton and a community clinic located in East St. Louis, Illinois. Another experience occurs in the SIU School of Dental Medicine on the Annual Research Day. During Research Day students participate in the annual Student Table Clinic Competition. Winners of the competition earn opportunities to present their research at research competitions throughout the country.  (<https://www.siue.edu/dental/>)

School of Pharmacy incorporates an experiential approach to education and promotes experiences for students to work alongside faculty members and preceptors. These opportunities afford students firsthand involvement with faculty with nationally recognized industry experience, research innovations, and educational leadership.

Support for student learning, experiences, and opportunities are priority at all levels of the institution. In particular, the Graduate School hosts a spring Research Symposium that includes student poster and oral presentations and awards. This one-day event is an opportunity for students to present their research to the SIUE community at large. The Graduate School also offers travel support to graduate students and students in professional degree programs for dissemination of the student’s research at one national, state, or local professional conference.

A majority of SIUE faculty members regularly publish with their students in peer-reviewed journals (SIUE is currently in the process of implementing an institution-wide program to help track faculty products that will also include tracking student involvement on the projects).