Faculty Student Research Program

Faculty Directory
2015-2016

Office of Research and Sponsored Programs
IMBM 201
570-941-6353
What is FSRP?

The principal purpose of the Faculty/Student Research Program (FSRP) is to offer you the opportunity to be involved in faculty research activities. The FSRP offers you powerful learning experiences which transcend the traditional roles of faculty/student relationships.

The program is university-wide and covers all academic departments. Participation is open to all undergraduates and graduate students in good academic standing. Although this program is offered on a non-credit basis, students will receive transcript recognition for their participation. The FSRP is currently being administered by the Office of Research and Sponsored Programs (ORSP) and the Registrar’s Office.

Benefits:

⇒ FSRP supports and encourages increased research activities at the university level.
⇒ Collaborative efforts of the faculty and students create an environment in which students can conduct research, develop research skills, and apply knowledge gained in coursework.
⇒ Meaningful dialogue between students and faculty is at the core of the learning process. This dialogue is enhanced by the opportunity for faculty and students to interact outside the classroom.
⇒ Faculty benefit from the assistance of capable, motivated students.

Finding a Faculty Sponsor:

In this booklet, you will find a list of faculty sponsors. In order to identify a faculty sponsor that will be a good match for you, first think about your own skills, education, and interests. Try to focus on classes you have taken which you found very interesting, or subject areas that you have always wanted to explore further.

Once you have identified your areas of interest, look through the list of faculty sponsors and pick out one or more professors who are working in areas that relate to your interests. Note that you are not restricted to working with faculty who are listed in the Faculty Directory. You may work with any faculty member who is interested in working with you. Visit faculty during their office hours or schedule an appointment to discuss your research interest. Most faculty members are NOT looking for students with prior research experiences. They ARE looking for students who genuinely want to participate in research and who will be energetic and reliable assistants.
Be prepared to talk about why you wish to participate in the FSRP and what you hope to gain from the experience. Be honest about your motivation in participating in this program. The faculty member, in turn, can let you know what their research has to offer you in a way of learning, and both of you can decide whether or not to work together.

Once you and a faculty member have agreed to work together, the next step is to complete the Learning Contract. This contract details the exact nature of the research you will undertake with your faculty sponsor and serves as a formal agreement between the two of you. After the contract is signed and turned in the Registrar's Office, you are officially part of the FSRP for that term. A new Learning Contract must be filled out and submitted for each term.

You are required to commit a minimum of one full semester/term to FSRP, but may continue your work beyond this. You should expect to devote 60-90 hours per term to the research activities; however, the exact scheduling of your time may vary depending on the particular research needs, your schedule and that of the faculty member.

**Transcript Recognition:**

A unique “course” number (97) will be assigned to FSRP activities. It may be prefixed by any of the active departmental designations (e.g. ENGL, PSYC, HIST, PS, etc.). The approximate prefix will be selected by the faculty member involved in the contract. The prefix and the “97” number will be placed on the contract form at the Registrar’s Office.

A transcript entry for a student might look like this, with the FSRP activity being the third entry:

<table>
<thead>
<tr>
<th>DPT/NUM</th>
<th>COURSE DESCRIPTION</th>
<th>GRD</th>
<th>CR</th>
<th>Q.P.</th>
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<tbody>
<tr>
<td>ACC 115</td>
<td>COST ACCOUNTING</td>
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<td>6.00</td>
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<tr>
<td>ACC 117</td>
<td>ADV. ACCOUNTING</td>
<td>B+</td>
<td>3.0</td>
<td>6.00</td>
</tr>
<tr>
<td>MKT 97</td>
<td>FACULTY STUDENT RESEARCH</td>
<td>S</td>
<td>0.0</td>
<td>0.00</td>
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</tbody>
</table>

**NOTE:** Giving FSRP Transcript Recognition for essentially the same work being performed in credit courses (e.g. undergraduate research or honors courses) is not appropriate.
SUMMARY OF STEPS

⇒ Consider your skills, interests, and education.
⇒ Review the Faculty Directory to identify professors you would like to work with and/or approach them in class even if they are not listed in the directory.
⇒ Visit faculty.
⇒ Jointly complete and sign a Learning Contract.
⇒ Submit one copy of both sides of the completed Learning Contract to the Registrar’s Office (St. Thomas 301) and one copy to Eloise Libassi, Office of Research and Sponsored Programs (IMBM 202). Faculty members should keep the original contract. An official roster for each subject area will be sent to the faculty member by the Registrar’s Office.
⇒ Work directly with faculty sponsor.
⇒ At the end of the term, the faculty sponsor and student should jointly complete the evaluation section of the Learning Contract. The faculty sponsor should keep this form. A copy may also be given to the student.
⇒ The Registrar’s Office will send the faculty sponsor a final grade roster on which a “SATISFACTORY” (S) grade or “NO CREDIT” can be reported for the FSRP. This roster will be delivered to the Registrar’s Office by the faculty member. PLEASE NOTE: Students are NOT penalized for failure to complete the terms of a Learning Contract. Students will simply not receive transcript recognition for their participation in the program. The Registrar’s Office will record the appropriate transcript recognition on your academic record.

FSRP DEADLINES

For the 2015-2016 academic year, the deadlines are as follows:

FALL—September 11
INTERSESSION—January 7
SPRING—February 12

Contact Information:
Office of Research and Sponsored Programs
IMBM 201
PHONE: 570-941-6353 (General #)
570-941-6301 (Eloise Libassi)
EMAIL: eloise.libassi@scranton.edu
www.scranton.edu/academics/provost/research

Office of the Registrar
St. Thomas Hall 301
PHONE: 570-941-7720
EMAIL: registrar@scranton.edu
www.scranton.edu/academics/registrar
Office Hours: MTWF: 8:30am-4:30pm
Thurs: 10:00am-4:30pm
The College of Arts and Sciences is the largest in the University, with almost 2,000 undergraduates and more than 35 areas of study. Its liberal arts programs serve students well in many different careers. CAS programs also lay the foundation for professional study in law, medicine and dentistry, as well as for graduate study in various fields.

In keeping with the Jesuit commitment to Cura Personalis, CAS provides many opportunities for students to explore their talents and interests.

CAS also supports the University’s commitment to the Magis—a restless desire for excellence. CAS host the Special Jesuit Liberal Arts Honors Program and the University’s undergraduate Honors Program, and collaborate with the Kania School of Management in the University’s Program of Excellence in International Business.

Brian P. Conniff, Dean
College of Arts and Sciences

<table>
<thead>
<tr>
<th>Majors:</th>
<th>Majors:</th>
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</thead>
<tbody>
<tr>
<td>Applied Mathematics, BS</td>
<td>Mathematics, BS</td>
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<tr>
<td>Biochemistry</td>
<td>Media and Information Technology</td>
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<tr>
<td>Biochemistry, Cell and Molecular Biology</td>
<td>Medical Technology</td>
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<tr>
<td>Biology</td>
<td>Military Science</td>
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<tr>
<td>Biomathematics</td>
<td>Neuroscience</td>
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<td>Biophysics</td>
<td>Philosophy</td>
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<tr>
<td>Chemistry</td>
<td>Physics</td>
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<tr>
<td>Chemistry/Business</td>
<td>Political Science</td>
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<td>Chemistry/Computers</td>
<td>Pre-Engineering</td>
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<tr>
<td>Classical Studies</td>
<td>Pre-Law</td>
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<tr>
<td>Communication</td>
<td>Pre-Medical</td>
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<td>Computer Engineering</td>
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<td>Sociology</td>
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<td>Computing Sciences</td>
<td>Strategic Communication, BA</td>
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<td>Criminal Justice</td>
<td>Theatre</td>
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<td>Electrical Engineering</td>
<td>Theology/Religious Studies</td>
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<tr>
<td>Electronic Commerce</td>
<td>Undeclared</td>
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<tr>
<td>Electronics/Business</td>
<td>Women's Studies</td>
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<tr>
<td>English</td>
<td>World Languages and Cultures</td>
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<td>Environmental Science</td>
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**BIOLOGY DEPARTMENT**

**KATHLEEN DWYER, Biology**

**Phone:** (570) 941-6386  
**Email:** kathleen.dwyer@scranton.edu  
**Office:** LSC 352

**Description of research activities:**

Some *Arabidopsis* plants have the trait of self-incompatibility (SI), that is the plants can recognize and reject their own pollen when fertilizing, preventing inbreeding. Self-recognition of the pollen depends on two genes: the *S*-locus receptor kinase (*SRK*) gene encoding the female determinant of SI and the *S*-locus Cysteine-Rich (*SCR*) gene encoding the matching ligand protein for the SRK receptor, acting as the male determinant of SI. The *SRK* and *SCR* genes are members of the *Receptor Like Kinase (RLK)* and the *S*-locus Cysteine-Rich Like (*SCRL*) gene families, respectively, whose other members may have important roles in plant development and/or in plant defense processes. To characterize the expression and function of other *RLK* and *SCRL* genes the Dwyer lab is using the gene manipulation techniques of GUS reporter gene analysis, antisense RNA, interference RNA and CRISPR, followed by their phenotypic analyses in the resulting transgenic plants.

**Activities to be performed by student:**

DNA preparation, PCR amplification, ligations, transformation, restriction enzyme digestions, agarose gel electrophoresis, use of NCBI and other databases for sequence analysis, analysis of transgenic plants.

**Student qualifications:**

- Usually Biology or BCMB major
- Usually sophomores, juniors, or seniors
Description of research activities:
Zoogeography of North American and Caribbean mammals; studies of bone mineral content in disease and hibernating bats; feeding/behavioral ecology of phyllostomid bats; applied histology and immunocytochemistry.

Activities to be performed by student:
• Analysis of mammal activity in the field
• Collection of field-caught mammals, measurements, and field preparations of tissues for laboratory examinations
• Histological and immunocytochemical methods to targeted morphological and physiological adaptations
• Collect, tabulate, and analyze data and present findings

Student qualifications:
• GPA is upper 20% of class
• Willingness to perform routine, daily tasks (e.g. section, stain, library literature searches).
• Desire to work independently and as part of a team.
• Must be reliable
Description of research activities:
Various projects focused on the ecology, ecophysiology, and conservation of landbird migrants.

Activities to be performed by student:
Field activities:
- Data collection on migrating and breeding birds via mist netting and trapping
- Field behavioral observations
- Finding and monitoring nests
- Collecting vegetation data to describe habitat and nest site location
- Sampling/qualifying arthropod abundance

Laboratory activities:
- Identification and quantification of invertebrates
- Processing of avian blood slides
- Identification and quantification of white blood cells
- Analysis of plasma metabolites
- Spectrophotometric analysis of feathers and eggshells
- Data entry and summary analysis

Student qualifications:
Fieldwork:
- Students must be willing to begin in the early a.m.
- Be dependable
- Have a willingness to tolerate field conditions (cold/hot temperatures, rain, physical work, etc.)

Labwork:
- Dependable
- Detail-orientated
- Be able to work independently or as part of a team
Description of research activities:
My laboratory focuses on examining structure and function relationships in bone. We use microCT analysis to characterize the microarchitecture of bone and examine changes in microarchitecture in response to a variety of factors including changes in mechanical loading, changes in hormones, the lack of a gene(s), etc.

Activities to be performed by student:
Students may be involved in a number of activities including:
- Dissection of specimens to harvest bone
- Set-up of microCT scanning of bones
- 2D and 3D analysis of microCT scans to generate data
- Statistics analysis of the microCT data
- Presentation of results at Student Scholar day

Student qualifications:
- Students ideally should have completed at least one sophomore-level biology course (or higher) with a lab, preferably with dissection experience.
- Students must be dependable, organized, and able to work both independently and as part of a team.
Description of research activities:
Our laboratory focuses on the relationships between structure and function in marine invertebrates, especially marine gastropods, with the goal of understanding invertebrate evolution. We are also interested in the effects of changing climatic conditions on marine organisms. Students with ideas for projects outside these areas are also welcome to propose independent investigations.

Activities to be performed by student:
- Maintenance and observation of marine invertebrates
- Histology, scanning electron microscopy, video recording, and other techniques to study structure and function

Student qualifications:
- Must be dependable, detail-orientated, and able to work independently and as part of a team
- Preference given to students who have taken invertebrate biology, marine ecology, or comparative biomechanics or who have taken a field course.
Foley Lab Research Summary

Deaths from cancers continue to rise despite decades of research into the etiologies and treatments of these diseases. Mounting evidence supports the view that cancers may be driven by fundamental shifts in cellular metabolism rather than specific genetic mutations per se. The long-term goals of research in Dr. Foley's lab are to examine further the metabolic perspective of cancer, to identify potential metabolic "Achilles' heels" of proliferating cells, and to establish strategies to destroy cancer cells selectively employing diet and nontoxic natural products. Ongoing research projects in Dr. Foley's lab have provided preliminary support for hypotheses that unique metabolic features of cancer cells may render them sensitive to (i) specific types of fats at levels that may be achieved in the diet and (ii) compounds able to transfer to proteins, rather than simply release, the cellular regulatory molecule nitric oxide. Understanding the mechanisms by which these treatments may kill cancer cells in cellular models of cancer, and eventual exploration of dietary formulations that might impact tumor growth in animal models, will be areas of great interest in the lab.

Students conducting research in Dr. Foley's lab are expected to devote multiple years of effort culminating in written theses to be defended in front of a committee of faculty.
COMMUNICATION DEPARTMENT

STACY SMULOWITZ, Communication

Phone: (570) 941-4135
Email: stacy.smulowitz@scranton.edu
Office: STT Communication Wing 4106

(1-2 students)

Description of research activities:
Various projects are available with the following broad topics: advertising, assessment, leadership, mediated communication, organizational communication, virtual teams

Activities to be performed by student:
Duties depend on the project, but the work generally involves literature review, data collection and analysis.

Student qualifications:
Students should be willing to work and have completed at least COMM 115 and have some experience in their area of interest.

Knowledge of SPSS, conducting literature review and data collection a plus, but not necessary.
Description of research activities:

This project deals with how relationships between New England and British writers and intellectuals were impacted by the American Civil War. Overall, the war resulted in a significant cultural conflict between the liberal democracy that was emerging in America and the conservative values held by most of the Victorian elites. Major figures involved in this conflict include Ralph Waldo Emerson, James Russell Lowell, Oliver Wendell Holmes (New Englanders), and Matthew Arnold, John Ruskin, and Thomas Carlyle (Victorians).

Activities to be performed by student:

Students will transcribe into electronic files selected portions of an interpretative chronological narrative based on information and materials derived from historical newspaper accounts, articles, letters, and diaries that were previously culled from various archival sources and incorporated into a mega database. Copies of these materials will be provided to the students.
ROY DOMENICO, History
Phone: (570) 941-4143
Email: roy.domenico@scranton.edu
Office: St. Thomas Hall 308G

(1-2 students)

Description of research activities:
Final revisions on manuscript - “The Devil and Dolce Vita,” a study of Italian Catholic cultural politics in the 1950s and 1960s. And preliminary work on new book project - "Italy's Long War, 1935-1948."

Activities to be performed by student:
- Bibliographic work, some library investigation and proof reading.

Student qualifications:
- Reading and familiarity with library and bibliographic work

LAWRENCE W. KENNEDY, History
Phone: (570) 941-4294
Email: lawrence.kennedy@scranton.edu
Office: St. Thomas Hall 308E

Description of research activities:

Activities to be performed by student:
- Locate relevant newspaper articles, copy and file, and transcribe key portions.

Student qualifications:
- Willingness and ability to work with digital newspapers.
Description of research activities:
Assistance with research pertaining to the theme of marriage proposals during colonial Mexico

Activities to be performed by student:
Transcription of 18th-century archival documents (in Spanish)

Student qualifications:
Advanced Spanish-reading language skills
JAKUB JASINISKI, Mathematics
Phone: (570) 941-6102
Email: jakub.jasinski@scranton.edu
Office: LSC 311A

(2 Students)

Description of research activities:
- Explore topics in topology and set theory of the real numbers.

Activities to be performed by student:
- Finding relevant papers, reading, producing examples and generalizing existing results.

Student qualifications:
- At least a grade of B+ in Math 446.

REV. JOHN J. LEVKO, S.J., Mathematics
Phone: (570) 941-7606
Email: john.levko@scranton.edu
Office: LSC 475

(2 Students)

Description of research activities:
- Explore topics in vector and tensor analysis (1 student)
- Explore topics concerning mathematics & spirituality [Eastern Christian and Ignatian] (1 student)

Activities to be performed by student:
- Finding relevant papers, reading, producing examples and generalizing existing results.

Student qualifications:
- For #1, at least a grade of B+ in Math 462, as well as permission of the instructor are required.
- For #2, at least a grade of B+ in T/RS 339 or T/RS 552, as well as permission of the instructor are required.
Argyrios Varonides, Physics/Electrical Engineering
Phone: (570) 941-6290
Email: argyrios.varonides@scranton.edu
Office: LSC 151

(3-4 students)

Description of research activities:
Physics and applications of modern opto-electronic devices (e.g. solar cells): tunneling and thermionic phenomena in graphene based semiconductor devices

Activities to be performed by the students:
Computations with modern software, mathematical calculations, hands-on measurements (I-V) characterisation

Student Qualifications:
Phys 140, Calculus, Electromagnetics I (Phys 447)
PSYCHOLOGY DEPARTMENT

JOHN C. NORCROSS, Psychology
Phone: (570) 941-7638
Email: john.norcross@scranton.edu
Office: AMH 224

(2-3 students per year)

Description of research activities:
Ongoing and diverse projects related to psychotherapy, self-change, clinical training, and admission into graduate school.

Activities to be performed by student:
- Literature searches
- Data collection
- Data input
- Statistical analyses
- Manuscript preparation

Student qualifications:
- Psychology major or minor
- Junior or senior status
- Completion of Psychological Statistics and Research Methods in the Behavioral Sciences
- Avid interest in scientific research
Project One:

(1-2 students)

Description of research activities:

- Technical assistant for railroad book project.

Activities to be performed by the student:

- Organizing images for publication purposes
- Scanning photographs, post cards, 35mm slides, color negatives, bland and white negatives, newspaper advertisements, charts, maps, magazine pictures, and related images, as well as three-dimensional objects, at 600dpi, utilizing on campus resources and equipment.
- Saving scanned work in TIFF to an external hard drive.
- Selected enhancement of images through PhotoShop or similar program.

Student qualifications:

- Open to students enrolled in any major or academic program.
- Expertise in scanning photographs, etc. and three-dimensional objects.
- Familiarity with graphic arts techniques used in publishing.
- Knowledge of and experience with PhotoShop or similar program.
- Capability with organizing and storing personal computer files.

(continued next page)
Project Two: 

(10 students)

Description of research activities:

“Sociology of Lackawanna County—Oral Histories” - Research activities in cooperation with the staff and membership of the Lackawanna Historical Society working on “The Women’s Oral History Project of Northeastern Pennsylvania” to date. Research activities are ongoing. At the present time, a number of oral histories have been tape recorded and are housed in the George Catlin Memorial, 232 Monroe Avenue (next to St. Thomas Hall). These need to be transcribed for future accessibility.

Activities to be performed by student:

- The student investigator will be expected to listen to and transcribe six (6) audio tape recordings of local oral histories who have resided in Lackawanna County. Each tape is from 60-90 minutes in length. They are personal, individual stories which reflect family life, work experiences, ethnic traditions, and everyday reminiscences.

Student qualifications:

- Very good listening, speaking, reading and writing skills are required.
- Should have some working knowledge of WordPerfect, Microsoft Word, or other word
Project for One student in Spring of 2016

Description of research activities:
This research is part of a project supported by Rutgers University School of Criminal Justice and the Institute for Higher Education Policy in Washington, DC. The project will study the implementation of higher education programs in American prisons. More specifically, an exploration of current higher education programs in prisons will yield at least three products:

1. comprehensive list of prison education programs in the United States,
2. survey that will be distributed to prison education programs to learn about the history, goals, requirements, implementation, and outcomes of such programs,
3. report that explains the results of the surveys, including best practices’ manual that can be published for others to learn more about prison education implementation.

Activities to be performed by student:
· Attend weekly meetings with faculty member and be fully prepared
· Journal searches, literature reviews, search of correctional department web sites
· Assist in developing a survey for a study of current correctional educational programs
· Data collection and analysis
· Manuscript preparation
· Possible travel to correctional institutions to interview program administrators

Student qualifications:
· Must be a Sociology or Criminal Justice major
· Junior or senior status and at least a 3.0 GPA in the major
· Completion or currently in Research Methods in the Behavioral Sciences class
· Interest in correctional research
· Should have some working knowledge of WordPerfect, Microsoft Word.
DAVID O. FRIEDRICH, Sociology, Criminal Justice & Criminology

Phone: (570) 941 -7467
Email: david.friedrichs@scranton.edu
Office: O’Hara 421

(1-2 students)

Project: White Collar Crime and Its Control book project; and related projects

Activities to be performed by student:

- Organizing and annotating relatively recent articles on white collar crime and its control presently filed in multiple file storage boxes
- Locating and extracting statistical data and recent information relating to white collar crime and its control on the Internet.
- Creating illustrative boxes, charts and diagrams relating to white collar crime and its control
- Creating a current student guide to web-based resources relating to white collar crime and its control
- Producing discussion questions and on-line exercises for students relating to white collar crime and its control

Student qualifications:

- Highly motivated, disciplined, and conscientious
- GPA of 3.25 or better
- Specific interest in the topic
- One or more criminal justice or criminology courses
- Past or anticipated enrollment in White Collar Crime course a plus, but not a requirement.
THEOLOGY/RELIGIOUS STUDIES

MARY ANNE FOLEY, C.N.D., Theology/Religious Studies
Phone: (570) 941-4194
Email: maryanne.foley@scranton.edu
Office: LSC 421

(1 student)

Description of research activities:
Study of the changes in self-understanding of women religious in the United States and elsewhere

Activities to be performed by student:
- Locate relevant journal articles, summarize and copy key excerpts

Student qualifications:
- Careful reading, clear writing
- At least 3 theology courses
- Reading knowledge of a European language helpful
Cyrus P. Olsen III, Theology/Religious Studies

Phone: 570.941.7729
Email: cyrus.olsen@scranton.edu
Office: LSC 393

(1-2 Students)

Description of Research Activities
Various interdisciplinary projects are available in (1) research on a start-up for Catholic parishes, using web-based technologies to streamline parish communication; (2) visualization for teaching and learning in the humanities; (3) theology and culture (film, comics, art, popular culture).

Activities to be Performed by Student

- Administer surveys
- Data-collection and visualization
- Reading and editing manuscript materials
- Basic website and blog maintenance (ability to learn adequate)
- Podcast archiving

Student Qualifications

- Completion of at least T/RS 121 (Bible)
- Open to all majors and minors interested in interdisciplinary research and the ability to think creatively within the humanities.
The J. A. Panuska College of Professional Studies prepares students in a wide range of professions. The College has been designed with the conviction that all disciplines should be taught and understood through a balance of theory and practice.

Panuska College students receive exemplary preparation for the profession of their choice and a solid education in the liberal arts and sciences.

Enhancement and extension of the Ignatian mission through service learning and dedication to being “women and men for others” is a large part of the Panuska College academic programs. These programs are committed to service learning through theory and practice and reflection through action.

Students in these academic programs perform community service through coursework and projects as a requirement for graduation. In this way, the service aspects of their prospective careers can be understood in personal and comprehensible terms.

**Majors:**

- Community Health Education
- Counseling and Human Services
- Education
- Exercise Science and Sports
- Health Administration
- Human Resources Studies
- Nursing
- Occupational Therapy
- Physical Therapy (graduate program)

Debra A. Pellegrino, Dean
Panuska College of Professional Studies
Description of research activities:

My research agenda is focused on understanding how identity develops and changes over time. I am interested in our general identity/sense of self as well as specific facets of our identity, including our professional, spiritual, and sexual identities. I have projects currently investigating general identity and professional counselor identity. My research includes intrapersonal and social perceptions of these identities.

Activities to be performed by student:
- Literature searches
- Assisting in data collection
- Data input
- Statistical analyses
- Manuscript preparation

Student qualifications:
- Interest in counseling
- Conscientiousness
- Completion of at least one statistics or research methods class
- Completion of the university's (free) CITI training
Description of research activities:

I am currently focusing on examining the effect of consuming or skipping breakfast on athletic performance and cognitive function in a variety of populations. I am also involved in a project working on developing a validated, reliable nutrition knowledge questionnaires for athletes with colleagues in other institutions.

Activities to be performed by student:

There may be a variety of opportunities to get involved with my research project and may include the following;

- Data collection
- Organizing participant packets
- Creating SurveyMonkey surveys
- Data entry
- Conducting literature reviews and retrieving research articles
- Formatting references
- Reviewing manuscripts

Student qualifications:

- Strong interest in nutrition and research
- Exceptional competence in computer programs
- Weekday morning availability preferable
- Will need to complete CITI training prior to beginning any research projects
Description of research activities:

The Human Motion and Ergonomics Laboratory (HMEL) occupies in open laboratory space in Edward Leahy Hall. HEML studies human movement during various conditions; gait, activities of daily living to reduce injury chances. HMEL has a twelve (12) camera motion capture system, four (4) force plates, electromyography (EMG) system, foot switches, electric goniometer, portable photo timing-system and balance master system.

Activities to be performed by student:

- Human movement data collection:
  - Placing retro-reflective markers on subjects
  - Running data capture software
  - Greeting subjects and accompanying them during the entire data capture process
- Data processing
- Data review, compilation, and entry in SPSS
- Literature reviews
- Proof reading
- Possible programming

Student qualifications:

- Students do not need to have competed EXSC 313 Biomechanics of Human Movement, but must possess an interest in human movement capture/biomechanics
- Responsible and attention to detail
- Must have CITI training if would like to work with subjects. I can help with this, but you will need to obtain this training.
- I would prefer sophomores so once training is complete, you will be able to work in the lab for two full years, but any year is acceptable.
- You do not need to be an exercise major, but an interest in science and basic understanding of physics (forces, torques) will be helpful.
Description of research activities:

The assessment of hydration status (dehydration and rehydration) among exercising populations. Body composition analysis using skinfolds, bioelectrical impedance analysis (BIA), and dual energy x-ray absorptiometry (DXA). Examination of ergogenic aids via anaerobic/aerobic exercise testing and the assessment of flow-mediated vasodilation (ultrasound).

Activities to be performed by student:

- Literature reviews
- Data collection
- Data entry
- Statistical analysis

Student qualifications:

- Completion of CITI online training
- Strong interpersonal skills
- Strong work ethic/responsible
- Genuine interest in scientific inquiry

PAUL CUTRUFELLO, Exercise Science and Sport

Phone: 570-941-5841
Email: paul.cutrufello@scranton.edu
Office: ELH 714
Description of research activities:
Ongoing and varied community-based participatory research projects related to health behavior change, social determinants of health and college alcohol use behaviors.

Activities to be performed by student:
- Search databases for review of the literature
- Subject recruitment
- Assist with interviewing and focus groups
- Data collection and analyses

Student qualifications:
- Community Health Education, Exercise Science or Pre-med major
- Junior or Senior preferred
- Strong writing and interpersonal skills
- Strong interest in scientific research
- Attention to detail
- Willingness to present

DEBRA L. FETHERMAN, Community Health Education and Exercise Science
Phone: (570) 941-7111
Email: debra.fetherman@scranton.edu
Office: Edward Leahy Hall 718
JOAN GROSSMAN, Exercise Science  
**Phone:** (570) 941-4721  
**Email:** joan.grossman@scranton.edu  
**Office:** Edward Leahy Hall 720  

(1-2 Students)  

**Description of research activities:**  
Metabolic and weight management research, i.e., the influence of exercise on weight management and metabolism.  
* Body composition assessment regarding the effects of aerobic and resistance training using different methods, BOD POD and DEXA-Scan.  

**Activities performed by the student:**  
- Research literature review  
- Subject recruitment  
- Laboratory preparation  
- Data collection and analyses  
- Manuscript preparation  

**Student qualifications:**  
- Strong writing and research skills  
- Willingness to dedicate time to project  
- Health Professions Major in sophomore and junior years preferred (Exercise Science, PT/OT, Pre-Med)
HEALTH ADMINISTRATION &
HUMAN RESOURCES

DANIEL J. WEST, Health Administration/Human Resources

Phone: (570) 941-4126
Email: daniel.west@scranton.edu
Office: MGH 417

(2-3 students)

Description of research activities:
- Research on global topics via internet, newspaper & library
- Develop and present papers at national and international conferences
- Research on health care competencies
- Co-author journal articles on relevant health care management topics
- Arrange and conduct international faculty/student study tours
- Developing grant proposals for international education projects
- Assist in writing grant proposals in health management education
- Applied research projects with universities in Slovakia, Georgia, and Mexico
- Work on ACHE Student Network projects
- International Accreditation Models & Processes

Activities to be performed by student:
- Grant writing and research
- Library research
- Prepare abstracts
- Literature reviews
- Conduct study tours
- Organize site visits

Student qualifications:
- Interest in health care management
- Proficient writing skills
- Knowledge in utilizing library facilities
- Interest in international activities
- Interpersonal skills
- Interest in other cultures and global issues
NURSING DEPARTMENT

Dona Rinaldi Carpenter, Nursing
Phone: (570) 941-4195
Email: dona.carpenter@scranton.edu
Office: MGH 315

(1-2 students)

Description of research activities:
- Qualitative Research Methodology: Textbook and Chapter Preparation
- Predictors of Success on NCLEX

Activities to be performed by student:
- Review of literature on qualitative research methods.
- Data entry in SPSS
- Formatting references in APA format
- Review of qualitative data
- Typing and editing

Student qualifications:
- Strong analytical skills
- Interest in nursing research
- Ability to maintain confidentiality
- Familiarity with APA format
ANN FEENEY, Nursing
Phone: (570) 941-4118
Email: ann.feeney@scranton.edu
Office: MGH 321
(1-2 students)

Description of research activities:
· Factors related to smoking in pregnancy and relapse to smoking after pregnancy.
· Educating nurses on smoking cessation and relapse prevention counseling.

Activities to be performed by student:
· Literature review
· Data entry
· Typing & editing

Student qualifications:
· Interest in nursing research
· Familiarity with APA format

MARY JANE S. HANSON, Nursing
Phone: (570) 941-4060
Email: maryjane.hanson@scranton.edu
Office: MGH 313
(1-2 students)

Description of research activities:
Investigation of factors associated with cigarette smoking behavior

Activities to be performed by student:
· Data collection
· Computer data entry
· Library research as directed

Student qualifications:
· Computer skills
· Junior/Senior status preferred, but not required
PHYSICAL THERAPY

RENEE M. HAKIM,  Physical Therapy  
Phone: (570) 941-7935  
Email: renee.hakim@scranton.edu  
Office: ELH 526

(3-5 students)

Description of research activities:  
Assist with research project using a haptic robotic device with a virtual reality computer program to train fine motor control (i.e., handwriting) in patients with wrist/hand dysfunction.

Activities to be performed by student:
- Search databases and review literature
- Recruit participants
- Assist with development and implementation of haptic device training program
- Administer clinical outcome measures

Student qualifications:
- DPT majors only; Year II or Year III
- Strong interest in clinical research
- Good interpersonal skills
- Responsible, motivated and organized
- Must complete online CITI training course