

**FY 2016 Awards**

Project Director	Dennis Bouvier
Title	Automating Computing Activity Grading for Improved Learning and Efficiency
Award	\$16200
Abstract	Introductory computing courses have a long history of relatively low success rates. Over the years, SIUE has attempted to improve student learning in these courses through the use of laboratory sections, small section sizes, and "clickers". Currently, the success rate is good in these courses, but the efficiency is low. Another technique that improves student learning is to assign a large number of programming projects. However, grading the programming projects is labor intensive. The goals of this project are stated in the title: "Automatic Grading for Improved Student Learning and Teaching Efficiency in Introductory Computing Courses". We propose to: 1) investigate existing automatic grading tools, 2) design an automatic grading system that incorporates the appropriate amount of existing tools into a new tool, and 3) test the new tool in CS 140 in the Spring 2016 semester.

Project Director	Sohyung Cho
Title	Renovation of Lab Exercises for Production Automation and Control Courses
Award	\$8000
Abstract	In response to the changes in today's business environment, production enterprises have employed rapidly evolving technologies over the past decades. Many of the new production methods in this revolution expect to require fewer people working on the factory floor. As a result, production automation and control are considered as the core component of this significant revolution. Automation and control can be achieved through various technologies such as programmable logic controllers (PLCs), micro-controllers. In School of Engineering (SOE), Industrial Engineering Program (IE) has offered courses focusing on production automations, like IE476 (Plant-wide Process Control), IE477 (Computer Integrated Manufacturing) and IE576 (Advanced Computer Integrated Manufacturing). Among those courses, lab exercises of IE476, however, have been taught using outdated technologies, for example, AB PLC (Allen-Bradley SLC504) with conventional ladder logic control software and a turnkey automated system that is more than 15 years old. As for IE477, it has been listed as one of the core elective courses for newly created BS Mechatronics Program in SIUE that will start from fall 2016. In this course, intense hands-on lab exercises using advanced micro-controllers are critical as control and integration are main subjects. In case of IE576, lab exercises have been restructured recently to include state-of-the-art technologies required for computer integrated manufacturing like robots and conveyors. However, PLC education in this course has been still based on traditional AB PLCs. Therefore, there is urgent need for SIUE SOE to renovate lab exercises of the aforementioned courses to use state-of-the-art automation and control technologies. The proposed EUE project will contribute to strengthening our undergraduate engineering education

	<p>curricula as a whole and aligning them with the advanced control engineering practice for the twenty-first century production environment. More specifically, it will offer the following benefit to students: 1) Enhanced understanding of modern control and automation for production systems in discrete and continuous nature. 2) Top-class hands-on experience that deals with advanced technologies such as PLCs and micro-controller. 3) Improved exposition to production automation using state-of-the-art hardware and software resources, which will be a significant advantage for students to be highly competitive engineers.</p>
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Project Director	Kiana Cox
Title	Sustainability and Diversity Summer Program
Award	\$6900
Abstract	<p>We propose the development of a Sustainability and Diversity Summer Program (SDSP), housed in the Sociology Program. SDSP will offer two Certificate tracks from which students may choose a Sustainability and Social Justice Certificate and a Diversity and Social Justice Certificate. Both Certificates will involve an intense study of social justice, but each track will be delivered either through the lens of sustainability or social diversity. Today's undergraduates experience a world that is much more socially diverse but much less sustainable than previous generations. They must be prepared to engage with both individuals and institutions that are diverse and concerned about sustainability. The SDSP has the potential to attract not only current undergraduates but also potential ones. Students will benefit in the short term by receiving a Certificate they can include on their resumes' in advance of receiving a four-year degree. The Certificate may also attract nontraditional students who are looking for a way to advance their already-established careers. The tracks will be designed to allow undergraduates to enroll in one or both tracks simultaneously. The tracks will also be scheduled such that undergraduates from both tracks can be combined into one large group for discussions and other exercises that highlight the overlapping nature of Sustainability and Social Diversity. We anticipate that the SDSP will attract students from a diverse range of academic, personal, and professional interests, as the topics have applicability in all that humans do. EUE funding is requested to support the collaborative development and implementation of curriculum for the two tracks to be offered in Summer 2016 and numbered as SOC 490-001 Special Topics, Sustainability and Social Justice and SOC 490-002 Special topics, Diversity and Social Justice . Each track will be taught by its own instructor, but will overlap when appropriate. We also plan to invite guest speakers from relevant offices and organizations to speak to the tracks. Funds are also requested to support one field trip to explore sustainability and diversity in the Metro East. The SDSP is in line with many of the suggestions made by the REALITY Project Team, including increasing experiential learning opportunities, innovating new pedagogies, and integrating appropriate technology. The SDSP also aligns with SIUE values of citizenship, excellence, inclusion, integrity, and wisdom.</p>

Project Director	Jocelyn DeGroot Brown
Title	Transitioning to a Hybrid: Developing OER and Assessing ACS 101
Award	\$10061
Abstract	Public Speaking (ACS 101) is currently one of two introductory courses offered in the Department of Applied Communication Studies and is slated to be a required course for all Southern Illinois University Edwardsville students upon the implementation of the Lincoln Plan. ACS 101 will be taught in a hybrid format starting in Fall 2015 and currently use a traditional textbook. The major goals of this project are twofold: 1) To identify, develop, and incorporate Open Educational Resources (OER) materials and ancillaries to replace the current textbook, and, 2) To assess the impact that course redesign (i.e., face-to-face to a hybrid format) has on core student learning outcomes. The assessment data will allow the faculty members to make necessary adjustment to formalize the course redesign, and establish assessment tools to be routinely used in future semesters. Following the completion of the project, OER materials, class assignments, and class format will be adjusted based upon assessment data and student evaluations.

Project Director	P. Ann Dirks-Linhorst
Title	Creating Pre-Law Program Internship Opportunity
Award	\$3800
Abstract	This proposal seeks to develop an experiential learning opportunity for Pre-Law students. Pre-Law Students may be those who participate in the Pre-Law Program; those who have declared the Pre-Law Interdisciplinary Minor; and/or those who are members of the Pre-Law Association student club. I would research, reach out to, and seek internship agreements with Metro East law firms and legal offices and create an Excel database of participating organizations; and secondly I would create an experiential learning course (CJ 398) specifically for Pre-Law Internships. This course would be taught online. The project will accomplish both of those work products.

Project Director	Asha Eapen
Title	Enhancing student self and peer-assessment in the gross anatomy laboratory
Award	\$8320
Abstract	One of the major curricular goals at the SIU School of Dental Medicine is to teach students to self-assess competencies, and to instill in them skills for life-long learning. Although principles of self-assessment are reinforced in the clinical curriculum, the preclinical curriculum during Year 1 is focused on faculty assessments, which do not provide students with opportunities to assess themselves. It is critical that students are exposed early on to self and peer-assessment that allows reflection, learning-needs recognition and competency assessment by faculty. The current application proposes to enhance student learning in the Gross Anatomy Laboratory by implementing a unique Do-It-Yourself (DIY) practical assessment technique that will include self-assessment, peer-assessment and competency assessment of student

	<p>knowledge. We aim to (1) teach students life-long learning skills including, student assessment of learning needs; (2) teach students the skills to create personal learning plans; and (3) allow students to participate in the education of peers through critique and feedback. During each lab session, students will use a grid listing approximately 20 structures related to the region being dissected. Each group will complete the assigned dissection and tag approximately 8 to 12 structures for the DIY component. Using Wi-Fi enabled tablet devices, each group will photograph the tagged structures and prepare a summary video. Students will also complete assigned case studies using the Virtual Anatomy Dissection Table and digitally document the same anatomical structures tagged on the donor body in the form of cross-sections, x-rays, CT-scans and/or MRI imaging modalities. Self-assessment will be accomplished by each student completing the questions on the grid for each lab session, identifying learning needs and creating a personalized learning plan. Peer-assessment will be accomplished by a student reviewing a peer's grid, evaluating the information and providing feedback to the peer. All exercises will be graded by faculty to determine student achievement of competency. Student-generated images will be available for study purposes, as well as to other SIUE faculty. We will perform an assessment of the program over a 2 year period to evaluate program effectiveness. We aim to enhance the resources we provide our students, improve pedagogical techniques used, and to ultimately instill in our students the passion for life-long learning.</p>
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Project Director	Thoshitha Gamage
Title	An Interdisciplinary Hands-on Approach to Cybersecurity Education
Award	\$11836
Abstract	<p>Many modern embedded systems have increased computational power and network connectivity. The `Internet of Things` is the popular idea that as this trend continues, in the near future nearly every electronic device will be connected in some way to the global Internet. Security for these devices, however, is often an afterthought, and many of both the Computer Science and Electrical/Computer Engineering undergraduates leave without ever being exposed to security as part of the design process. We wish to rectify that by offering a new course specifically designed to teach our undergraduate students embedded systems security. EUE funding will be used to develop a cross-listed CS and ECE course to be developed and initially taught in Spring 2016. The course will expose students directly to many of the technologies used in networked embedded systems, primarily through a series of hands-on projects during the course of the semester. These projects are enabled by the new crop of inexpensive (&lt;\$50) Single Board Computing devices which contain all of the processing and memory to run full operating systems. These devices integrate well with many supplementary modules, including those supporting various common wireless communication technologies. This new technology allows for a very cost effective course open to all CS and ECE undergraduates with an interest in embedded system design and cybersecurity. Part of the requested EUE funding will pay for all necessary equipment for 24 students, the other part will pay for salaries to develop the labs.</p>

Project Director	James Hanlon
Title	Transforming Human Geography (GEOG 205) Into a "Blended Lab" Course
Award	\$3124
Abstract	<p>I am requesting funding to develop a blended learning version of Human Geography (GEOG 205) that 1) aligns with the Lincoln Plan criteria for a lab-designated course and 2) incorporates the "flipped classroom" pedagogical model. GEOG 205 investigates the full range of topics encompassed by the subdiscipline of human geography, and a broad cross-section of students take the course. It is required for Geography majors and for students seeking Social Science Secondary Education licensure, and it fulfills the Social Sciences Breadth, Global Cultures Experience, and Laboratory Experience general education requirements. As a course that offers a window to the immense scope and diversity of human activities across the world, GEOG 205 provides an important opportunity for students at SIUE to elevate their geographical awareness, cultivate a sense of global citizenship, and prepare for their roles as the next generation of society's leaders and earth's stewards. These aims can be more effectively achieved if the course is taught in a way that incorporates a greater degree of active learning and dialogue in the classroom, that emphasizes and fosters applied critical thinking and problem solving skills through lab exercises, and that avails itself of the wealth of interactive, innovative, and intellectually enriching learning materials that can be found online today. SIUE's implementation of the Lincoln Plan and encouragement from SIUE administration to develop blended and online course offerings'n addition to reflecting broader shifts in the landscape of higher education pedagogy have created highly favorable conditions for, and animated my keen interest in, undertaking the transformation of GEOG 205 into a "blended lab" course. To date I have made modest incremental progress toward this goal, but the course modifications required to achieve it entail an extensive time commitment. As such, I am requesting one month of summer salary to complete this project and offer GEOG 205 as a fully implemented "blended lab" course beginning in Spring 2016. The proposed course transformation represents a significant pedagogical innovation (the combination of blended, lab, and flipped classroom approaches) that will be applicable to a wide range of disciplines.</p>

Project Director	David Jennings
Title	Using digital resources, experiential learning, and course-based undergraduate research experiences to enhance field-based biology courses (Herpetology: BIOL 486)
Award	\$5175
Abstract	<p>A central goal of many science programs is to involve as many students as possible in research activities. Hands-on experiences that require students to apply their skills and creativity to solve new problems or generate new information are increasingly being emphasized in science curricula. The current proposal requests funds to support restructuring of BIOL 486 (Herpetology) to directly address this objective. Specific goals include: (1) expanding the diversity of laboratory exercises to focus on integrative</p>

	<p>approaches that require students to analyze organisms at a range of levels (cellular/organismal/ecological), (2) increase field-based activities where students actively conduct experiments in natural environments or observe organisms in their natural habitats, (3) incorporate course-based undergraduate research experiences where students put their training into practice by designing experiments and generating novel data. Student success will be assessed through a variety of mechanisms including student feedback for specific activities, use of newly developed online study resources, peer / faculty evaluation of research presentations. The resources and data developed through this proposal will be available for incorporation into other courses including both introductory and advanced courses in the biology curriculum. An additional outcome of these revisions is that students will be required to produce a video presentation of their research projects. Video presentations are an excellent way to increase awareness of student research at a range of levels both within and outside the university community.</p>
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Project Director	Joel Knapp
Title	SIUE Concert Choir to perform and participate in the Festival Internacional de Coros de Santiago de Cuba
Award	\$10000
Abstract	<p>The Concert Choir will travel to Santiago de Cuba to participate in an International Choral Festival, Dec 2 – 6, 2015. This is a juried, invitation-only event and will include several countries along with many Cuban choirs. During the course of the festival, we will perform at schools, prisons, churches, and other events open to the public. We will also present 2 - 3 formal evening concerts at Sala Dolores which seats over 1,000. The final concert, in which all choirs participate, will be televised nationally. This will be a great benefit to the students both musically and culturally. We will have many opportunities to interact with other musicians and the people of Cuba. When we return, we will have new music (not available in the USA) and perform on campus, in the community, and apply to perform for the state convention of the National Association of Music Educators.</p>

Project Director	Jessica Krim
Title	First Class or Coach? A Pilot for Redesigning the Curriculum of the Secondary Education Certification Program
Award	\$8846
Abstract	<p>This project intends to pilot curricular changes to impact identified areas of need concerning teacher candidates in the Secondary Education Certification Program. Historically, this population has a limited understanding of best classroom practices regarding English Language Learners as well as working with parents and guardians. This proposal seeks funding to (1) pilot sustainable curriculum revisions in CI315A and CI315B that will facilitate math and science student learning outcomes as the Secondary Education Certification Program navigates the transition to full implementation of redesigning its courses and (2) utilize assessment data to provide updated quality learning experiences to math and science teacher candidates enrolled</p>



	<p>in these classes. These measures will help support teacher candidate persistence, promote their completion of the program, and contribute to the overall goals set by the state of Illinois. Research questions include: (1) Will the proposed plan for scaffolding student learning in identified areas of need result in higher scores from Cooperating Teachers (when evaluating Student Teachers) and higher scores from Student Teachers (when evaluating the Secondary Education Certification Program)? (2) Will a "booster" of time in the TeachLive Lab promote Secondary Education teacher candidate learning outcomes in identified areas of need, as measured by a pre and post assessment? (3) What do teacher candidates learn from each of the components of the project, as measured by the reflections that are completed over two semesters. Evaluation measures include the Illinois Public Colleges Teacher Graduate Survey, Cooperating Teacher evaluations of Student Teachers, edTPA scores, student reflections, and a pre-post test to determine the effectiveness of the TeachLive component.</p>
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Project Director	Soondo Kweon
Title	Developing an Interdisciplinary Course on Engineering Design & Analysis: 3D Product Design & FEA
Award	\$9450
Abstract	<p>These days 3D (Dimensional) product design using commercial 3D CAD (Computer Aided Design) software is widely used in almost all engineering fields. Knowledge of this subject will increase the competitiveness of our students in the job market and in their future engineering practices. Finite element analysis (FEA) is a numerical technique widely used in almost all engineering fields to seek the solution for engineering problems. FEA is especially powerful in stress analysis of designs that involve 1) complicated geometry, 2) nonlinear material behavior and 3) large deformations. The use of the analytical methods that an undergraduate engineering student learns from the existing SIUE engineering curricula does not provide the solution for the listed designs. An introductory FEA course is offered at many engineering schools/colleges. To strengthen the SIUE students' competitiveness in the job market, we propose to develop an interdisciplinary course 3D Product Design and FEA for upper-level undergraduate engineering students. We include 3D modeling techniques since modern high-end commercial FEA packages are usually integrated with computer-aided design (CAD) applications. This integration will allow students to analyze as they design, thereby expediting design cycles. This proposed course will benefit students in their capstone design courses as well.</p>

Project Director	Yuliang Liu
Title	An International Education and Culture-Focused Study Abroad Program in Lanzhou, People's Republic of China
Award	\$14708
Abstract	<p>This proposal requests EUE funds to help reduce the cost for participants in a new and unique program in an Education and Culture-Focused Study Abroad Program in Lanzhou, northwest China in May 9-22, 2016. Education and culture is an integral component of programs in the School of Education, Health and Human Behavior (SEHHB) at SIUE and this new program enhances efforts to provide international opportunities to students who typically do not seek to travel abroad. This study abroad program stems from the International Training Program in Pedagogy (ITPP) established in 2012 to train Northwest Normal University (NWNNU) faculty from China. NWNNU's recent discussion of direct exchange of students has occurred at a good time for SEHHB students to participate in this faculty-led study abroad program at NWNNU in Lanzhou, China in May 2016. This program will be offered the first time to general and special education, health, psychology, and other majors. The program intends to achieve these objectives: (1) to introduce students to two distinct disciplines (special and general education) in Chinese K-12 education, as well as Chinese culture through lectures and field observations/visits; (2) to help students gain a deeper understanding of social, cultural, and political factors that significantly influence teaching and learning in 21st Century schools in special and general education; and (3) to help students compare and contrast special and general education systems between China and U.S. Participating undergraduate and graduate students are required to register in one of the courses recommended by SEHHB. It is expected that up to 20 students and 2 faculty could participate in the program. Participants will spend 2 weeks in Lanzhou and Beijing, China to closely interact with NWNNU faculty and teacher candidates, K-12 students and teachers in general and special education, as well as members of various communities in Lanzhou. Students' performance will be assessed based on their participation in lecture sessions held in both the U.S. and China, daily debriefings and journals, participation in school and field visits, and two projects (completed after the return to the U.S.). Program effectiveness will also be assessed against the diversity standard of the Illinois Professional Teaching Standards and results will be disseminated at SIUE, scholarly conferences, and publications. It is expected that project objectives will be fully achieved.</p>

Project Director	Linda M. Lovata
Title	Accounting Bootcamp
Award	\$4000
Abstract	<p>Many students struggle with the first accounting class, ACCT 200: Fundamentals of Financial Accounting. We find that about one third of the students receive either withdraw or receive a D or less in the course, which is not unusual at most universities. Often these students repeat the course several times thus increasing their time to graduation. I am proposing an Accounting Bootcamp to intervene in order to improve success rates for</p>



	<p>these students. A major obstacle for many of these students is the lack of a basic understanding of the accounting model. I am proposing a one-hour "bootcamp" offered online during the J-term to solidify this basic accounting model before students attempt the course a second time. While any student will be allowed to enroll in the class, it will be targeted at those who have already attempted, but did not successfully complete, ACCT 200. The instruction will be presented as a series of homework problems using a programmed-learning approach. Students will be required to complete about 20 minutes of homework each day. The homework will include repetition and reinforcement while building the model in small increments to enhance the student's competence and confidence in basic accounting skills. Beyond learning accounting, the practice of committing to a daily regimen of studying will be reinforced. I will be able to track students who complete the Bootcamp to measure the success of the program. If successful, it could be repeated in the 3-week May term.</p>
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Project Director	Adriana E. Martinez
Title	Development of an Online ENSC 220-Principles of Environmental Science
Award	\$3770
Abstract	<p>I am requesting funding to develop and improve an online version of Environmental Science (ENSC) 220-Principles of Environmental Science to be offered every semester and during the summer session. Principles of Environmental Science covers basic environmental science principles including: ecosystems, biodiversity, population, climate, sustainability, agriculture, water resources, pollution, human health, waste, environmental economics, and politics. In addition, this course serves as the primary course for the ENSC minor at SIUE and will serve as the primary course for the ENSC major currently being developed. Offering this course online would both boost enrollment numbers throughout the year and make a course available to non-residential students. In addition, the course would expand online course offerings, an initiative that SIUE has focused on, and allow students to fulfill course requirements in a timely manner.</p>

Project Director	Therese Poirier
Title	Resources for New Honors 320 Course Offered by Pharmacy Faculty
Award	\$1972
Abstract	<p>During the fall 2015 semester, pharmacy faculty will be offering their first Honors 320 course. The course is titled, Perspectives of Health through Literature and Media. The purpose of the class is to develop interdisciplinary perspectives on health and illness through exploration of literature and various media. Resources to purchase necessary books and films that will support the course goals are needed. Two copies of each resource are requested. One copy will be used by the course faculty and the second will be placed on reserve in the library for students. Topics addressed in this course include the portrayal of positive and negative health behaviors, public health crisis, stigmatization including changing views of mental illness, patient experiences, portrayals of health care providers, health care ethics,</p>

	death and dying, media and health information, and aging. Throughout the course, students will be asked to view films and other media as a basis for in-class discussions. These assignments will also serve to widen student perspectives about various topics. In addition, students will select a book to utilize for their major written assignment and oral presentation. The impact of the course will be assessed using perception and evaluation surveys.
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Project Director	Christine Simmons
Title	Development of an Integrative Organismal Diversity Course
Award	\$2536
Abstract	The limitations associated with traditional lectures as the primary pedagogical tool has led to numerous calls for reform of science education focused on changing the traditional lecture model to incorporate active learning strategies. Active learning strategies aimed at promoting autonomous learning by the individual student have taken many forms including, case-based learning, problem-based learning, guided inquiry, and peer-lead team learning. This EUE project will provide funding for a physically integrative lecture and laboratory course in organismal diversity. The course, BIOL 490 Integrative Organismal Biology, is scheduled for its debut in the spring 2016 semester. The course is designed for undergraduate students that have completed the introductory biology sequence (BIOL 150 and BIOL 151) and have an interest in biodiversity, evolutionary adaptations, and life histories spanning all domains on the Tree of Life. The integrative component of this course combines a traditional lecture (three hours per week) and laboratory (three hours per week) into two weekly sessions (each three hours). Students will have most of their learning in a hands-on, integrated setting promoting the goals of active learning. The course uses the team-teaching approach to ensure appropriate coverage of all major taxonomic groups. A typical course session will include extensive hands-on activities that students will complete following a guided inquiry model intermixed with brief chalk-talks to solidify the conceptual content. Materials for each course session will be prepared by the course instructors and disseminated to the class via BlackBoard on a weekly basis. Additional readings (journal articles, specific chapters from selected texts) and assignments will also be disseminated using BlackBoard. Assessment in the course will come from exams, various assignments, and a final exam. Funding of this EUE will allow for the purchase of materials required to facilitate the hands-on active learning aspect of this integrated course.

Project Director	Christine Simmons
Title	SABRE Initiative In Algal Biodiesel Production
Award	\$3083
Abstract	The SIUE Authentic Biology Research Experience (SABRE) program will contribute to knowledge of course-based research experiences (CURE) implementation in large, introductory classes while focusing on the science and societal issue of biodiesel production. This specific project will provide technology-driven authentic-inquiry research experiences to early undergraduate students through BIOL 150, the introductory biology course

	<p>laboratory for biology majors and includes novel components that will add to the body of knowledge on authentic research experiences for early undergraduates. These novel components include a partnership with a national research center (NCERC) and emphasis on the multidisciplinary nature of research. Funding from the SIUe EUE will support the design, implementation, and evaluation of a one-year pilot SABRE program. This project will focus on the following objectives: 1) Develop and test a technology-driven authentic-inquiry laboratory sequence focused on research advancing knowledge in the field of algal biodiesel technologies; 2) Examine the efficacy of the module through a research study; and 3) Disseminate the curriculum materials to educators who teach CURE courses. The SABRE program and this project will determine if students participating in this course with an authentic-inquiry applied research laboratory sequence will increase their a) understanding of the research process and inquiry practices, b) positive attitudes towards STEM careers, c) retention in STEM academic programs, d) knowledge of core biology concepts, and e) awareness of biofuels as a science and society issue. Assessment of the SABRE program will include: 1) pre/post analysis of knowledge in course content and biofuels, 2) analysis of learning artifacts such as lab notebooks to determine the developing understanding of the science research process, 3) interactions with student focus groups, 4) student articulation through a written report and a poster symposium, and 5) administration of the URSSA survey to assess student attitudes towards STEM careers and understanding of the research process.</p>
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Project Director	Chin-Chuan Wei
Title	Investigating Biopolymers by High Performance Liquid Chromatography in Upper-level Chemistry Labs
Award	\$17861
Abstract	<p>In response to recent changes in our degree programs and new requirements from professional societies, the Department of Chemistry is in the process of adding and updating several of our upper-level Chemistry Laboratory courses. The target audience for this EUE are the students enrolled in the Physical Chemistry Laboratory (CHEM 365a/b), BioPhysical Chemistry Laboratory (CHEM 465), and Biochemistry Laboratory (CHEM 455) courses - approximately 75 students per year. The Department has offered a new program, Chemistry - Biochemistry Specialization, to which health/biology majors have a smooth transition. Since its beginning in 2014, this program is becoming one of the fastest growing in the University. However, the curriculum for BioPhysical Chemistry laboratory course is still under development due to the high cost for instrumentation and the lack of suitable instruction manuals. Thus, the laboratory curriculum requires additional equipment to implement the designed experiments and deliver instruction in modern BioPhysical Chemistry techniques. American Chemical Society (ACS) recently mandated that all ACS-certified degrees must include instruction in polymer or macromolecular chemistry. This impacts two B.S. Chemistry tracks: the B.S. Chemistry with ACS Certification and the B.S. Chemistry with ACS Certification in Biochemistry. To address such mandates, this EUE proposal requests funding to purchase a High</p>

	Performance Liquid Chromatography (HPLC) system that will be used for biopolymer characterization for both BioPhysical and Physical Chemistry Laboratory courses and biopolymer separation for the existing Biochemistry laboratory. This equipment is vital to introduce our undergraduates to modern characterization of biopolymers.
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Project Director	Laura Wolff
Title	Using Peer Mentors to Increase Completion Rates In Principles of Economics
Award	\$3960
Abstract	<p>Based on Fall 2014 data, one in three students enrolled in my sections of Principles of Economics courses will not complete the course with the grade necessary to proceed in the programs which require Principles of Economics for their major. In the evening section, it is close to one in two students. Many drop or disappear. Enrollments are relatively large (80 per section) and it is easy for a student to go unnoticed in a teaching load of more than 300. Proportionally, a large number of these students are brand new freshman who are not successfully managing the transfer from high school to university. Poor attendance and poor study skills are part of the problem; they have yet to develop the skills and behaviors of successful students. This project will introduce a peer role model into the class, drawn from past students who have successfully navigated both the transition to the university and Principles of Economics. These peers should be credible, as they understand the skills, knowledge and behavior that was recently required for them to successfully complete both the class and the broader challenges facing entering freshman. A peer mentor will be assigned to each section of my courses, will attend class, monitor attendance and contact students who have missed a section or an assignment, organize study groups and in other ways promote success and engagement with course material. Each will work five hours a week, three directly attending class and outreaching to peers before and after the session and two hours in study groups, individual or group sessions. The goal is for more of their time to be spent reaching out to those at greater risk while at the same time reinforcing the positive behaviors students are already exhibiting in the course. Success will be measured first as a decrease in the number of students receiving WR and NS grades, and second by the overall percentage of students in the course that receive an A, B, or C compared to past terms.</p>