Advanced Integrative Omics  
MEDICINE: Kelly Ruggles

To address the growing need for collaborative biomedical teams analyzing the wealth of omics data that is being rapidly generated, we propose the development of a hands-on graduate level course, Advanced Integrative Omics, where students learn the importance and challenges that come with carrying out collaborative multidisciplinary data-centric studies. The curriculum will center around one or more omics datasets analyzed specifically for the purposes of this course (e.g. RNA-Seq, genome-wide methylation, proteomics, metabolomics) and the majority of class time will be spent proposing analysis plans, working through analytic road blocks and summarizing biological results. In addition to the collaborative and quantitative skills gained by the students, an end goal of the course will be the preparation of an original manuscript draft written collectively by the student team.

Aging and Dementia: Intergenerational and Interdisciplinary Experiential Learning  
SOCIAL WORK, MEDICINE: Peggy Morton, Ann Burgunder, Thea Micoli

This project seeks to build upon the Buddy Program, an existing program at NYUMC, which matches NYU Nursing and Medical students with people in the early stages of Alzheimer’s disease or a related dementia for ongoing visits outside of a clinical setting. Members of NYUMC staff and faculty provide continuing education about the clinical, psychosocial and research aspects of dementia to students at regular meetings. We hope to bring this innovative and educational program to a wider group of students across many disciplines at NYU by expanding the course into the Service Learning Program currently offered by the NYU Silver School of Social Work. The project would utilize CDCF funding for student and staff transportation to the home of persons with dementia and their family caregiver, fees associated with activities of the student buddy and the mentor, Honorariums for aging and dementia experts, and a final presentation buffet luncheon for students, caregivers, persons with dementia and faculty.

American Heterotopies: Researching Place in Hemispheric Perspective  
CAS: Jens Andermann

This application is for startup funds to develop a digital environment for a new undergraduate course in Spanish/Latin American Studies that articulates concerns and questions from urban and environmental studies with digital humanities tools and protocols of data gathering and archive development. From a comparative, trans-American perspective, the course will draw upon Foucault’s concept of ‘heterotopia’
In order to analyze the postcolonial geographies of cities, regions, and nations in the Americas. ‘Heterotrophic’ sites make visible the tensions and conflicts that organize social and cultural space, either because societies have purposely made room for multitemporality, crisis, and transition (as in museums, parks, and reservations, or asylums) or because obsolescent sites (ruins, urban borders, post-extraction landscapes) have attracted new, experimental modes of use and habitation. Combining literary, art-historical, and architectural approaches with questions and research methods from critical geography and documentary filmmaking, this course will be organized around actual site visits (most of them virtual but there will also be visits to physical sites an and around NYC). In order to make the course highly participative as well as research and writing-intensive, we aim to custom-build a web repository, which allows storing and organizing student-generated written and audiovisual content. In this way, student coursework will produce an expanding, interactive archive of heterotopias in the Americas that each subsequent iteration of the course will simultaneously draw and expand upon. Further to developing the digital resources and road-testing it in a Washington Square-based classroom context, the aim is to present it to Global Programs as a multi-site, networked course using virtual classroom streaming technology, taught simultaneously at NYC and NYU Buenos Aires. In a further stage, the digital toolkit and experiences of good practice in co-teaching would be easily adapted to incorporate other cities into its comparative framework or to make it available for the development of co-taught courses at other NYU Global Sites.

**Cinema Studies Digital Curriculum Working Group**

**TISCH: Anna McCarthy**

This funding request is for a yearlong working group on teaching computational literacy and creative computing within the department of Cinema Studies. The group will collaborate with Tisch's Department of Interactive Telecommunications (ITP). It will identify key curricular areas to be covered in a section of the ITP course entitled Introduction to Computing Media (ICM) designed especially for cinema studies graduate students. Members of the group will include faculty (from Cinema Studies and other Departments), technical staff, graduate students, and student trainers and consultants hired in consultation with ITP. The group will learn by doing, using physical computing equipment and software purchased under the auspices of this grant. In addition to making recommendations for this particular course, group members will outline a process for drafting broader teaching initiatives in time-based digital media for the department.
**Educating the Educator to Transform Nursing Education**
NURSING: Maria A. Mendoza, Emerson Ea

There is a need for qualified nurse educators to prepare future nurses who are expected to provide safe, high quality, and efficient care in a complex and ever-changing health care system. An analysis of the Meyers current faculty, especially those who are teaching in the undergraduate program and who teach on a part-time basis, show that the majority are well-prepared as clinicians but have limited or lack formal training in nursing education. The proposed course offering aims to equip future and current nurse educators to have the requisite skills and competencies to effectively educate future nurses who are flexible, innovative, and able to provide safe effective care. This proposed course will consist of three stand-alone modules, and will be offered as an elective to students enrolled in the graduate and Doctor of Nursing practice programs at Meters whose graduates make up the majority of part-time faculty at Meyers. These modules will also be offered as a faculty development resource to current part-time and full-time faculty at Meyers, and to students outside of the university who are interested in experiencing the excellent nursing education brand that Meyers offers. Several innovative strategies to meet the course outcomes will include a flipped classroom approach, virtual guest experts, simulation, and small group workshops. This course offering will also prepare learners to sit and be successful on the National League for Nursing’s Nursing Education Certification exam.

**Implementing the Use of a New Digital Learning Tool for Building and Testing Interpretation Skills in Oral Radiology**
DENTISTRY: Silvia Spivakovsky, Niloufar Amintavakoli, Debra Ferraiolo

The implementation of this innovative application will provide a new learning environment that, up to now, was limited by more conventional approaches due to the class size and time constraints. The project will span over three years of the students’ dental education (D2, D3 and D4) with potential to reach more than 1000 students each year, allowing for creative development of the students’ analytical skills.

**Incorporating Undergraduate Minority Students in the Teaching of STEM Courses (NYU STEM-BEST Course: Discovering Science Research)**
CAS: Ignatius P. Tan, Alison Mello

A critical challenge in undergraduate STEM education is to engage and retain students from underrepresented minority (URM) and underserved groups. Often, these students come from secondary schools that do not have the financial resources or the connections to allow students to experience the excitement and rewards of scientific research. In partnership with the NYU Opportunity Programs (OP), we developed a course (Discovering Science Research) that is designed to engage pre-college URM students in an actual research project in a structured classroom setting. This course has
been running for four years and has been successful in encouraging students to choose and continue STEM education in college. Our immediate goal is to further develop and expand the curriculum to include undergraduate NYU OP students, who, after structured training and mentorship from faculty, will serve as instructors and mentors. By engaging and enlisting these URM students in leadership roles, we will provide them with enhanced academic support and aim to positively enhance their views on science as a field of study and career, leading to greater retention in the sciences. This grant will allow us to develop a sustainable, working program that can be the subject of rigorous educational research. Our longer-term goal is to submit a full NSF-IUSE proposal under the Engaged Student Learning track so that we may use evidence-based approaches to further build this program as a model for STEM education that can be adopted by other departments and institutions.

Local Data with Global Implications: Analyzing Air and Water Pollution
LIBERAL STUDIES: Kevin M. Bonney

The aim of this proposal is to support student engagement in scientific inquiry through the collection and analysis of local and global air and water quality data. Grant funds will be used to provide a classroom set of hand-held air monitors to measure levels of carbon dioxide and water vapor in the air, which are the two major greenhouse gases linked to both natural and human-driven climate change. Funding will also be used to purchase meters capable of assessing the pollution and health of local waterways, as evidenced by measuring temperature, acidity, and amount of dissolved particles. This one-time purchase of equipment will complement freely available educational materials and global data sets to provide a self-sustaining set of hands-on activities that promote learning objectives in at least two Liberal Studies science courses for an estimated five or more years. The timing of this proposal is aligned with the development of a new Global Liberal Studies science course titled “Living in the Anthropocene,” which will be first offered in the 2018-2019 academic year. This course will focus on analyzing the physical biological, environmental, and climatological changes that underlie critical local and global environmental issues. This equipment will also be useful in our existing Environmental Studies course, which aims to make science interesting and accessible through local experiential learning and analysis of global environmental issues, such as pollution and climate change.
OSCE Implementation in Practice and Field Integrated Curriculum
SOCIAL WORK: Anne Dempsey, Nicolas Lanzieri

This project is intended to introduce rigor, practice opportunities, and standardized methods of providing evaluative feedback to MSW graduate students in the Silver School of Social Work’s foundational Integrated Practice I/Field I course. The Objective Structured Clinical Examination (“OSCE”) adapted for social work by Bogo, Rawlings, Katz, and Logie (2014) will be used as a means of evaluating student performance in interviewing, engaging, and in assessing standardized patients. The experience of immediate reflective exercises, and feedback from faculty raters, and standardized patients, offers Silver MSW students a new opportunity for practice and skill development.

10. Tag-Teaming Courses or How to Build Course Curricula Engaging Students in Authentic Research
CAS: Nikolai Kirov, Mary Killilea

The aim of this proposal is to update and considerately improve the curricula of two advanced Biology courses taught by the PIs. Molecular Biology Lab (MBL I, G23.1122) taught by Prof. Kirov is a core course in the Biology MS Program and Environmental and Molecular Analysis of a Disease (EMAD, BIOL-UA 500-001/ENVST-UA 315) is an upper-level undergraduate course taught jointly by the PIs. The proposal is designed to allow the sequential use of materials and experimental data from EMAD to initiate research inquiry in MBL I and then to use results/materials, data from MBL I for analysis in EMAD. Expected impact: The proposed sharing of materials and data (courses “tag-teaming”) will increase the efficiencies of both courses allowing for more advanced research and data analysis, improving the courses learning environment, stimulating undergraduate students’ interest in science and advanced training of graduate students.

Teaching Molecular Structure Using 3D Visualization and Printing Technologies
CAS, COURANT: Trace Jordan, Craig Kapp

This proposal describes the use of innovative educational technologies to enhance students’ understanding of molecular structure and function. The properties of a molecule are inherently linked to its three-dimensional structure, but traditional modes of instruction are constrained to representing molecules on a two-dimensional page or screen. We describe a suite of inquiry-based activities that use interactive software, virtual reality, augmented reality, and 3D printing to enable students to visualize the three-dimensional structure of molecules. These instructional tools will be implemented in a science course for non-majors in the College Core Curriculum. The project will achieve the dual educational goals of increasing students’ understanding of molecular science while also developing their capacities with using 21st century technologies.
Teaching Latino/a and African Studies Through New York City’s Archives
CAS: Cecelia Márquez, Robyn d’Avignon

New York City is home, respectively, to the largest Latino/a and African populations in the United States. New York’s public archives arguably contain the country’s richest collections of documents, audio recordings, and ephemera produced by and about these diverse communities of color. We are applying for startup funds to create archival-based digital learning modules and an interactive course website for two pre-existing undergraduate courses we teach as specialists of Latino/a and African history—“Latino/a Social Movements” and “New York, An African City.” The funds will be used to compensate two graduate students to conduct targeted research in archives based in New York City. We will compile this research into digital learning modules for our students to use in research-based assignments. We will also compensate an undergraduate student to design and populate two course websites, which will host the digital modules in a password-protected backend. Undergraduates will produce original content for the public-facing portion of the website, based on their research within the digital modules. This initiative will introduce students to the practical and ethical dimensions of conducting research and writing for a general audience. In turn, we aim to become catalysts in our departments for collaborative, digitally informed pedagogy that brings the unique resources of New York into our classrooms.

The INSPIRE Project: Improving Nurse Practitioner Students’ Performance
NURSING: Mary Brennan, Chuck Tilley, James Nguyen
Amount Requested: $5,000.00, **Amount Awarded: $4,000.00**

“Code 99! The patient has stopped breathing.” According to the Adult-Gerontology Acute Care Nurse Practitioner (AGACNP) Competencies (American Association of Colleges of Nursing, 2016), the provision of specialized emergency care, including the assessment, diagnosis and treatment of patients with acute and critical illness, are core competencies. In many hospital settings, AGACNPs are often the first contact or “first call” when patients stop breathing or clinically deteriorate, requiring NPs to respond immediately. AGACNPs rapidly assess the clinical situation, prescribe emergency medications, initiate non-invasive or invasive mechanical ventilation, and perform psychomotor skills, such as the insertion of an airway or endotracheal tube (Kleinpell, Hravnak, Werner & Guzman, 2006; Kleinpell, Wesley & Grabenkort, 2008). The cognitive and technical skills associated with the performance of these techniques are extremely complex and require advanced education, training and competency to ensure quality patient outcomes. Due to the ethical concerns that limit students’ practice opportunities with actual patients, AGACNPs may not receive this essential training and experience, leading to fear and uncertainty when confronted with acutely deteriorating patients. According to the American Association for Respiratory Care (AARC, 2016) safety data, a significant number of health care providers make decisions on ventilator-dependent patients and manipulate ventilator settings without having adequate educational training or competency to perform these adjustments. In their White Paper (AARC), the
authors have recommended that all providers who are responsible for initiating and managing patients on mechanical ventilation undergo pre-hospital education and competency testing prior to the performance of these skills. Furthermore, the AARC and the Agency for Health Care Research and Quality (2013) emphasize that didactic training alone is not sufficient as learners need multiple opportunities to practice these skills, individually and collaboratively, including hands-on-training, simulation and competency testing (AARC). To address this gap in safe clinical practice, and to provide multiple opportunities for students to practice and acquire these skills, the INSPIRE team will develop an interactive, virtual learning environment designed to cultivate AGACNPs knowledge, decision-making skills, and acquisition of psychomotor skills through multiple, virtual practice experiences as guided by the Experiential Learning Model and Learning Styles Framework (Kohl, 2015). INSPIRE will mitigate the fear and indecision associated with inexperience and INSPIRE student confidence and competence in the effective management of patients with acute respiratory emergencies.