Information Technology Services (ITS) Teaching with Technology 2020 Grant Program

Teaching with Technology Grant Program

In March 1995, the Marion Scherner Leonhard Trust Fund was established to support creative educational programming to improve teaching and student learning through programs at the university. The program provided assistance for teachers from the areas served by the college in developing their computing proficiency for use in the classroom, for designing new instructional techniques and programs, for improving teaching effectiveness, and for increasing student learning. This program was also used to provide assistance to faculty, staff, and selected students in developing computing proficiency for improving teaching and student learning. In the fall of 2016 Information Technology Services (ITS) assumed stewardship of the program.

To date, the Teaching with Technology Grant funds totaling $222,355.00 supported 24 FSU faculty members in 15 departments. As example, grant funds launched a music technology program, improved learning outcomes for students enrolled in a documentary filmmaking course, expanded the adoption of mobile (iPad) technology and most recently supported a multi-departmental Drone project that allows students to actively conduct population research on wildlife using UAVs, thermal cameras, GIS software, and machine learning. (Details are included as Appendix B.)

ITS-Innovation in Teaching with Technology Grant

The ITS-Innovation in Teaching with Technology grant program continues the legacy of Marion Scherner Trust Fund. The program supports experimentation with new tools and technologies, the exploration of new trends for using technology within a field of study or course delivery format, and for developing new approaches to teaching that improves student learning. All members of the FSU community are eligible to apply for the grant through a competitive process.

What types of projects does the grant fund?

For this application cycle, **priority will be given to projects that align with the university strategic initiatives, faculty** wishing to integrate technology into High Impact Practices or faculty interested in leveraging existing technologies such as the Adobe Creative Suite. The budget for the project should fall between $10,000 and $30,000 and should have no other means of support at this level. Smaller undertakings that require substantially less money ($500 to $5,000 as example) and anything beyond $30,000 might be better handled through external grant applications.

What is the application process?

The ITS Grant Application is emailed in October to all faculty and staff. The application form is saved as an editable PDF file. Once completed, applications are uploaded **no later than Tuesday, January 21, 2020, at noon** to the Blackboard ITS Teaching with Technology site.

Applications and abstracts are reviewed by a collaborative cross-functional team according to the evaluation criteria outlined on the next page. Late applications and paper copies will not be accepted.

What are the submission requirements?

Each applicant is expected to provide	Completed narratives should also include
☐ Summary paragraph of no more than 200 words describing the proposed project, its goals, objectives, and expected outcome ☐ Narrative of no more than three pages detailing the proposed project and how the pedagogical practice or integrated technology aligns with University strategic initiatives ☐ Stated objectives that are measurable, based on the SMART philosophy[1] ☐ Application signed by Department Chair or Department Head ☐ Feasible project timeline, not to exceed one academic year ☐ Approved 3-year technology budget based on a meeting with ITS and conversations with department	☐ Clearly stated project description and vision Documented assessment plan that explains how the project goals and outcomes will be assessed, measured and reported. Examples: Survey Feedback; Focus Groups; Evidence of Student Engagement ☐ Resources required, including technology purchases, materials, travel, and anticipated personnel expenses ☐ Three-year budget based on a meeting with ITS and budget conversations with your department to support the technology beyond the Grant Year ☐ Communication Plan explaining how the innovation will be shared with colleagues across the institution; attendance at the Technology Summer Institute and/or other forums

Who are the department contacts?

Department	Contact	Phone Number
Library Services	Bonnie Mitchell	(508) 626-4651
ITS-Education Technology	Robin Robinson	(508) 626-4688
ITS-User Services	Deb Saks	(508) 626 4930
Office Of Assessment	Mark Nicholas	(508) 626 4670

What is the grant process timeline?

Application Process	Timeline
Call for proposals emailed to FSU faculty and staff	October 11, 2019
Open Forum Question and Answer session	November 13 HH107 1:30 -2:30 p.m.
GRANT PROPOSALS DUE uploaded to Blackboard	JANUARY 21, 2020 AT NOON
Grant Notification	Mid-February
Formal Grant Announcement	A Day in May
Technology Summer Institute	First week of June
Technology Funding	FY2019-2020
Expected Project Kick-off	AY2020-2021

Project Assessment Report(s)

As a grant awardee, applicants agree to submit student work that emerges from assignments in the funded project that can be used for institutional assessment to the Office of Assessment. For this reason, a meeting with the Executive Director of Assessment is required before a grant proposal is funded.

Applicants are also asked to attend the Summer Technology Institute the year the grant is awarded and the following year to present the project findings. A brief abstract will also be posted to the university website to promote your work on the ITS web page. (The tentative date for the 2020 Technology Summer Institute is the first week of June.)

FREQUENTLY ASKED QUESTIONS (FAQ)

Questions	Response
Can an applicant apply for grant funds more than once?	There is no restriction on the number of times an applicant may apply for grant funds, but preference is given to new projects. Each proposal is reviewed according to the criteria listed below and should be for no more than one academic year.
Who reviews The Proposals?	A cross-functional team of administrators and faculty l collectively administer the program from the Academic Affairs office. The group reviews proposals in spring 2019 for projects in fiscal year 2019-2020 for use toward "designing innovative approaches to teaching and learning through technology." The program administrators also determine overall feasibility based on required support and available resources. Awards provide limited funding for direct costs and do not cover indirect or ongoing annual expenses.
Who do I contact if I have questions?	The Director of Education Technology and eLearning manages the grant process. Questions may be addressed to Robin Robinson in writing rrobinson@framingham.edu.
How Are Proposals Evaluated?	The SMART framework[1] is used to evaluate proposals. Proposals should consist of no more than three pages based on how well the questions are answered and/or documented. For this grant cycle, priority will be given to projects that align with the university strategic initiatives, faculty wishing to integrate technology into High Impact Practices or faculty interested in leveraging existing technologies such as the Adobe Creative Suite. Projects that explore new possibilities through pilot projects, as well as trial and error initiatives on a small scale, in order to test innovative ideas and gain insights that can be used to inform prospective implementation and support on a larger scale are always encouraged.

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[1] Reference Appendix A

What criteria is used to evaluate the application?

Criteria	Explanation
Significance Identifiable – Need (Extent of Innovation)	☐ Does the proposal align with a university strategic initiative and/or retention solutions? ☐ Does the proposal explore new possibilities through pilot projects, as well as trial and error on a small scale, in order to test innovative ideas and gain insights that can be used to inform prospective implementation and support on a larger scale?
Implementation Plan (Quality and Feasibility)	☐ Is there clear justification for the funds? ☐ How will the proposed innovation, practice or method be shared, adopted and replicated either within a particular discipline, or across disciplines? ☐ Is there sponsorship support and available (non-financial) resources?
Feasibility Sponsorship – Resources: (Readiness for Adoption)	☐ Is additional training needed before the project can be implemented? in your classroom or before students may use the technology? ☐ What limitations, problems or challenges will you face that would impact the success of the project? ☐ If additional staff is needed, please identify their role (example: research assistant).
Impact Short term implications - Potential for Broader Adoption (Who is the target audience for your project?)	☐ What is the short term implication for adopting this technology? ☐ What is the potential for scaling the project across a broader audience?
Sustainability Project continuance beyond the project year	☐ After the funds are spent, how do you anticipate sustaining the project? ☐ How will your department budget support the project beyond the grant year?

APPENDIX A

*The establishment of all objectives should be created using the S.M.A.R.T. philosophy. What do we mean by a S.M.A.R.T. objective?[2] S.M.A.R.T. is an acronym that is used to guide the development of measurable goals. Each objective should be:

Specific – **M**easurable w/Measurement – **A**chievable – **R**elevant – **T**ime-Oriented [2]

Specific
Specific answers the questions "what is to be done?" "how will you know it is done?" and describes the results (end product) of the work to be done. The description is written in such a way that anyone reading the objective will most likely interpret it the same way. To ensure that an objective is specific is to make sure that the way it is described is observable. Observable means that somebody can see or hear (physically observe) someone doing something.

Measurable w/Measurement
Measurable w/Measurement answers the question "how will you know it meets expectations?" and defines the objective using assessable terms (quantity, quality, frequency, costs, deadlines, etc.). It refers to the extent to which something can be evaluated against some standard. An objective with a quantity measurement uses terms of amount, percentages, etc. A frequency measurement could be daily, weekly, 1 in 3. An objective with a quality measurement would describe a requirement in terms of accuracy, format, within university guidelines.

Achievable
Achievable answers the questions "can the person do it?" "Can the measurable objective be achieved by the person?" "Does he/she have the experience, knowledge or capability of fulfilling the expectation?" It also answers the question "Can it be done giving the time frame, opportunity and resources?" These items should be included in the SMART objective if they will be a factor in the achievement.

Relevant
Relevant answers the questions, "should it be done?", "why?" and "what will be the impact?" Is the objective aligned with the S/C/D's implementation plan and the university's strategic plan?

Time-oriented
Time-oriented answers the question, "when will it be done?" It refers to the fact that an objective has end points and check points built into it. Sometimes a task may only have an end point or due date. Sometimes that end point or due date is the actual end of the task, or sometimes the end point of one task is the start point of another. Sometimes a task has several milestones or check points to help you or others assess how well something is going before it is finished so that corrections or modifications can be made as needed to make sure the end result meets expectations. Other times, an employee's style is such that the due dates or milestones are there to create a sense of urgency that helps them to get something finished.

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[2] Source: Wayne State University [http://wayne.edu/hr/leads/phase1/smart-objectives.php]

APPENDIX B: Teaching with Technology Innovation Grants 2011-2019

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Aline Davis (Biology)	**iPad Pilot** The iPad study sought to study sought to evaluate technology-enhanced student engagement by comparing the experiences of students using only an e-textbook with the experiences of those using only a standard textbook. [Read the article]().	AY2011-2012
Aline Davis (Biology)	**Improving Student Engagement** During academic year 2012 to 2013, Dr. Davis investigated the usefulness of the Apple iPad2 compared to Lenovo ThinkPad tablets in an upper division laboratory Biology class. The study examines several technological enhancements in teaching and learning, including: textbook format, audio recording, personal response systems and the mobile Blackboard App. Student participation was voluntary. The project team was recognized with a Blackboard Catalyst award for Innovation in Mobile Technology by Blackboard. Dr. Aline Davis continued with her investigations for improving student engagement with lecture materials using both in-class polling and lecture capture. The outcome helped to identify a solution that is cost effective and easy to use that might be adopted by others at the university.	AY2012-2013 AY2013-2014
Marc Cote (Art)	**Interactive Digital Graphic Novels** Students participating in the grant attempted to transform work that traditionally goes solely to print, into iBook format using the iPad App iBook Author. Sixteen students enrolled in "ARTS 305 Comix and Graphic Novels" will transform work that traditionally goes solely to print, into IBook's using the IPad App IBook's Author. This will allow a class of primarily Studio Art/Illustration Majors to enter into the quickly emerging market of online publishing. The IBook's program encourages a degree of interactivity with the viewer not possible in printed books. During a typical "Comix/Graphic Novels" course, students produce a short illustrated story with no written words as well as a longer sequentially illustrated story with text and visual "sound effects." Working with IPads, the students can move beyond the static story and introduce multiple options for reading/viewing.	AY2012-2013
Lynn Parker (English)	**Online Learning Communities** The use of technology and social media to develop and maintain an online learning community is particularly promising for studying Victorian literature and culture. At a level of information access, researchers on Victorian literature have made marked contributions to opening up electronic access to primary and secondary texts. Brown University's highly successful "Victorian Web" project provides one such example of the ways in which multiple researchers can gather and open up resources for students and scholars in an online forum. In addition, projects that investigate the implications of new Victorian technologies, such as photography and telegraphy, to transmit and shape information have directed our attention to the ways in which accessing information shapes our understanding of the information itself. Hence developing and sharing resource material has been a priority for scholars of the Victorian period, which provides resources for supporting our own investigations.	AY2012-2013

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Lynn Parker (English)	**Online Learning Communities (Continuation)** This grant builds upon the experience and materials from a spring 2013 Teaching Technology Grant using iPad mobile technology to incorporate social media tools, such as Google+, annotation software and platforms, such as Classroom Salon, and research tools to enhance the students' understanding of the literature and culture of the Victorian Period.	AY2013-2014
Lynn Parker (English)	**Study of Victorian Literature** The grant continued work with integrating social media applications in the literature classroom in the proposed course, ENGL 375 Studies in British Literature: The grant funds were used to purchase additional apps for teaching Victorian Supernatural in spring 2015.	AY2014-2015
Marlene Correia, James Cressey, Valerie Hytholt (Education)	**Pre-Service Teacher Prep with Mobile Technology and Assessment Tools** Preparing teachers to be effective in twenty-first century classrooms with students who are digital natives is a critical component of pre-service teacher education at Framingham State University. The majority of Education majors already possess the technological skills necessary for using current technology, but what is missing is the integration of research based-pedagogical practices, with technology skills and content knowledge in planning. This project is designed to give Early Childhood Education majors the opportunity to practice the integration of these three factors while concurrently impacting the learning of young children in the Child Development Lab on campus.	AY2013-2014
Jennifer Dowling (Communication Arts)	**iPads in Communication Arts** The grant is a continuation of the exploration of innovative instruction for COMM327 Computer Animation Techniques course. Having recently taught the course with funds from the previous Teaching with Technology grant, Dr. Dowling discovered the most effective approaches for teaching the subject and plan to implement changes for a more successful learning experience. She would like to provide students with iPads once again, but this time with a more focused and deliberate purpose. Imparting skills with new technology is not the primary goal of this proposal, however. Instead, the key factor is to facilitate different ways of solving problems, finding answers, discovering inspiration, creating concepts, and exchanging ideas that will allow students to more fully develop their knowledge of the subject while building their computer animation abilities	AY2014-2015
Barbara Milot (Art Education)	**Teacher Prep with Mobile Technology** This grant will train students in the art education program (undergraduate and Post-Baccalaureate Teacher Licensure students) to use the newest instructional technology (iPads, apps, on-line resources and social media) to design curriculum, deliver instruction and manage the art classroom.	AY2013-2014

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Barbara Milot (Art Education)	**Continue the iPads in Art Education program** initially supported in AY 2013-2014 and renewed for AY2014-2015. The program is designed primarily for the students in the FSU Art Education program (the undergraduate art education concentration and the Post-Baccalaureate Teacher Licensure program). In the spring of 2016 the students will use the iPads, the lesson plans and instructional techniques that they developed in the fall course in their full-time student teaching practicum and in our weekly teaching seminars. We will use the same equipment and resources that we have used since fall 2013 with the addition of one more portable LCD projector. This will ensure that all student teachers can project images and videos in the K-12 art rooms.	AY2014-2015
Catherine Frederico (Food and Nutrition)	**iPads innovation for Food and Nutrition** Educating students for 21st century nutrition careers requires demonstrating knowledge and practice in how to use relevant technology, particularly in light of new HITECH Act statutes. Happtique.com estimates that there are about 40,000 health related apps in the iTunes store. This grant would fund the use of iPads for course teaching, practice, and productivity projects with follow-up assessment of their acceptance by students and faculty, and course design.	AY2014-2015
Christian Gentry (Music)	**Introduction to Electroacoustic Composition** The funding of this project seeded a music technology program that fills in a creative and technological gap that was missing at FSU. This program includes the building and implementation of a digital music studio on campus as a space for a course called Introduction to Electroacoustic Composition. The course will fulfill the Domain I-A General Education requirement. Furthermore, the studio will be available for preapproved students and faculty for creative and scholarly purposes.	AY2014-2015
Robert Johnson (Communication Arts)	**iOgraphy Documentary Project** This proposal seeks funding for (6) iPads and (6) iPad "iOgraphy" kits for the F'14 *COMM366-001 Documentary Filmmaking* course. Each kit greatly improves an iPad's ability to capture and edit high quality video, making them ideal tools to assist students in creating their first documentary stories. Several new exercises will be designed to help students use these tools to build essential skills. The first exercise will require students interview someone about their relationship to their job. To successfully complete these assignment students must synthesize interpersonal and technical methodology. Since the modified iPad is simple to operate students can more fully engage with their subjects; subsequent exercises build upon these experiences.	AY2014-2015

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Robert Johnson (Communication Arts)	**iOgraphy Documentary Project (round 2)** This proposal seeks funding for the purchase of iMovie editing software, and the continued use and integration of (6) iPad-mini's and (6) iPad "iOgraphy" kits in the F'15 COMM366 Documentary Filmmaking course. The iOgraphy kits are non-threatening technology that enhances students' abilities to engage and capture subjects, and later edit video. These tools assist students in learning how to craft short documentary stories.	AY2015-2016
Ben Atchison (Mathematics)	**Open Educational Resources (OER)** The funding for the project will be used for the creation of new instructional materials and the utilization of OER texts and software for the existing General Mathematics and Algebra sequence. By increasing accessibility and reducing immediate costs to the student, it is expected that overall teaching effectiveness should improve and student learning should increase.	AY2015-2016
Ben Atchison (Mathematics)	**Open Educational Resources (OER) Part 2** This project will seek to collect and develop open educational resources (OER) that align with the Math 095 (General Mathematics) and Math 123 (College Algebra) course sequence at Framingham State University. This would include the coordination of OER textbook materials, utilization of an existing low or no-cost online homework/assessment platform, and the gathering or creation of additional course enhancements (video tutorials, study notes and slides, free graphing calculator websites/apps, etc.). Ultimately, the expected outcome would be the creation of departmental materials that could be used for both courses, and serve as review/supplemental material for Math 200 (Pre-calculus).	AY2016-2017
Andrea Gorman (Food and Nutrition)	**Using a Clinical App in Nutrition** The project will utilize a clinical nutrition app (Nutrition Workbench Pro http://www.nutritionworkbench.com/Nutrition_Workbench/Home.html) on iPad technology in the NUTR 483/884 Medical Nutrition Therapy course. This tablet technology and app will be used along with reflector technology (http://www.airsquirrels.com/reflector/) allowing class participants to see the instructors tablet displayed in the classroom to enhance learning. Additionally, content of the course will be modified so that the course content is flipped such that Panopto recordings of lecture content are recorded and viewed by students prior to class and class time is spent using this technology to review specific patient cases to provide a real-world simulation experience.	AY2015-2016

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Conny Breuning, Satish Penmasta (Computer Science)	**Improving Teaching and Learning in a Computer Class** In this project, we propose to use technology for creating a collaborative environment for Improved teaching and learning. The technology will allow students to share their device screen with the instructor and/or their peers. With this screen sharing, the instructor will be able to see and analyze students' work, their engagement, trends and approaches to problem solving, and identify common problems. The Instructor will also be able to share student screens to allow the class to determine solutions to debug and resolve errors and share alternate solutions and to identify an efficient solution. This technology will also support peer-to-peer screen sharing which will enable collaboration and teamwork.	AY2016-2017
Laura Osterweis (Communication Arts)	**Gamification in a Communication Arts Class: "How do I get students to read?** Grant funds were awarded grant for a two-year study: the first year Laura studied what activities and types of gamification and game-based experiences motivate students to read/learn content. In the second year, Laura plans to employ successful gamification and gaming methods learned in the first year to one class while using traditional methods in another to see how they compare in terms of engagement during class discussion, content read/learned, and performance on exams, papers and projects.	AY2016-2017
Fei Yu (World Languages)	**Improving the Teaching and Learning of Chinese through a Technology-integrated Linguistic Landscape Project** Aligning with the strategic initiative of FSU to advance global stewardship and embrace a sense of community in both local and global settings, this project is designed to create an opportunity for Chinese exposure and practice in the local Chinatown community in Boston by implementing a technology-integrated Linguistic Landscape (hereafter LL, referring to public displays of language) project with 25 students enrolling in a Chinese course. Specifically, taking on the role of "language detectives", students are engaged in observing, collecting, recording, and analyzing public signs shown fully or partially in Chinese in the local community where they have access. Technology is essentially important for implementing this project, mainly including photographing, LL mapping, voice recording, and course blogging. Through connecting the language classroom to the real world, the goal of this project is not only to provide students with an opportunity to learn Chinese through authentic input on public print, but also to inspire students to think analytically and creatively about how Chinese language is used in the local community. Particularly, the final products from this project, including the LL map and the course website, will be used as instructional materials for future Chinese courses at FSU.	AY2017-2018

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Andrew Jung (Computer Science)	**Computational Thinking: Building Robots and Games** This grant funds were awarded to promote the ability to solve the problems in critical and creative ways. The goal of teaching in University is to help students to become critical thinkers and effective problem solvers. The ability to analyze and consider the consequences of computing critically is an important skill set for the 21st century learners not only computer science students but also students of all other areas due to popularity of using personal computing devices such as laptop, smart phone, and other h.md-held de vices. Accordingly, computer related education is magnified not only for students at university but also for all other age groups. However, there are no computing courses for students who are not in computer science major at FSU. Thus, a new course was proposed to enhance students' computational thinking capability that is necessary for preparing digital literacy world.	Proposed for AY2017-2018
Irene Porro (McAuliffe Center)	**Technology Enabled Cross-Curriculum Immersive Learning Project** The McAuliffe Center, in collaboration with FSU faculty, proposes to leverage the immersive learning potential of the FSU Planetarium to improve engagement in General Education experiences for students across all academic departments. A pilot program will model the integration of student-driven explorations using *The Layered Earth* (TLE), an earth science simulation software for the planetarium, into Physics and Geography Gen Ed courses. At the same time, faculty and students, independently, will pursue self-directed learning in two new lab environments equipped with TLE for PC. Additional faculty will learn about TLE and related resources through a monthly forum series hosted by the McAuliffe Center. The acquisition of the TLE for the Planetarium and the sharing of results from the pilot project will contribute to important changes in awareness and practice among FSU faculty with a high potential for long-term impact for the FSU community: - Increased awareness of the potential of the FSU Planetarium to support cross-disciplinary - learning and Gen Ed courses. - Implementation of immersive learning technology by faculty across all departments based on - the models emerged from the pilot program. - Engagement in both random conversations and deliberate collaborative work to produce cross-curriculum modules for their courses and develop new co-teaching experiences.	AY2018-2019

GRANT RECIPIENTS	ABSTRACTS	TIMELINE
Larry McKenna (Physics/Earth Science), Dave Merwin (Geography) Steven Dinkelacker (Biology)	**Integrating UAVs ((unmanned aerial vehicles - Drones), GIS, and machine learning to count shy mega-fauna (alligators) in the wild** Grant Funds are used to design, build and implement an integrated technology system that allows students to actively conduct population research on wildlife using UAVs, thermal cameras, GIS software, and machine learning. The integration of these technologies as a teaching tool is novel and directly expands student participation in experiential learning with demonstrable application to high-demand careers in the Commonwealth.	2019-2020