

Program Review



ADP/Program Review - Innovation Center/Maker Space

2020 - 2021

1. Department Goals - Current Progress: 1. Identify, research, develop, disseminate, and provide training for innovative teaching and learning strategies, tools and techniques to enhance the learning environment.

a. The Innovation Center has hosted workshops, build days, flex activities, and 1-on-1 training opportunities for faculty and staff. Training topics included the OEI Rubric, Canvas, digital fabrication, a variety of maker-centered learning topics, and Design Thinking.

2. Execute plan to re-imagine and re-equip the Innovation Center as a comprehensive makerspace.

a. Progress: The Innovation Center successfully completed the requirements of the CCC Maker grant, making progress in the areas of Community of Practice, Work-based Learning, Makerspace, and Curriculum.

3. Execute plan for certificates and curriculum in 3D Printing and Desktop Manufacturing and Physical Computing.

a. Progress: To date, we have offered three of the four MAKR courses: MAKR 100, 101, and 110. We took delivery of new 3D printers to support MAKR 110. In addition, the college offered SOC 379 - Making Social Change, and ECE 439 - Making for Educators, two of the courses in the Modern Making 16 unit certificate.

2. Department Goals - Future: Goal #1

Identify, research, develop, disseminate, and provide training for innovative teaching and learning strategies, tools and techniques to enhance the learning environment.

Resources (staffing, funding, training, etc.) required to meet this goal:

A full time lab assistant in the makerspace will free the faculty Instructional Design and Development Coordinator to focus on makerspace program development and sustainability, and in helping faculty and staff integrate makerspace activities into their programs.

Goal #2

Expand Innovation Center makerspace offerings and resources, with an intentional focus on equity.

Resources (staffing, funding, training, etc.) required to meet this goal:

The Innovation Center has outgrown its current space, and expansion of our various interdisciplinary programs (FermSci, biomaterials) create a need for additional kinds of spaces, including outdoor areas and wet labs. As such, we will continue to explore opportunities for expansion to accommodate this growth. Significant financial resources will be required in order for the Innovation Center to continue to provide innovative opportunities for the college community. The Innovation Center Coordinator will continue to work with college Administration to explore funding options, including private donations, grant funds, subscription models, and partnerships in order to meet our ongoing and future operational needs. The Innovation Center needs a full-time permanent lab assistant to ensure that the space functions properly. In reality, we need more space, and official recognition of the back yard area would enhance our program. We also need to develop better data collection and analysis capacity in order to gather and assess data about student use of the makerspace to ensure equitable access.

Goal #3

Execute plan for MAKR certificates and curriculum.

Resources (staffing, funding, training, etc.) required to meet this goal:

Now that our major grant (CCC Maker) is finished, FTE will be required to continue offering MAKR courses and certificates.

Ongoing financial resources will be required to equip a classroom with software and hardware to support MAKR courses and makerspace lab operations.

Goal #4

Continue our development as a regional leader in maker education.

The Innovation Center was selected as a regional hub as part of the Making Spaces program, a joint effort of MakerEd and the Children's Museum of Pittsburgh. As part of this 30-month program, we have partnered with the following schools to help them advance their maker-centered learning efforts:

Georgetown School of Innovation (Black Oak Mine Unified School District)
Northside STEAM School (Black Oak Mine Unified School District)
Mills Middle School (Folsom Cordova Unified School District)
Cordova High School (Folsom Cordova Unified School District)
McCaffrey Middle School (Galt Joint Elementary Unified School District)
Waking the Village (<https://wakingthevillage.org>)

The nature of each partnership reflects the unique needs and interests of the partner site. For example, we worked with Cordova High to articulate their Senior Design Pathway and FLC's MAKR 100 course, strengthening the connection between graduating seniors and Folsom Lake College. With other partner sites, the focus is on anything from make-at-home STEAM kits to Design Thinking to outdoor school/smart garden efforts.

The Innovation Center applied and was accepted as a host site for the Citizen Schools Maker Fellows program. As part of that program, we will host an AmeriCorps volunteer for 1 year, to help advance our efforts, including the aforementioned Making Spaces program. We were able to hire former FLC student Nicole Shuman in that role, and she has been working on a variety of Innovation Center projects.

Resources (staffing, funding, training, etc.) required to meet this goal:

A full time lab assistant in the makerspace will free the faculty Instructional Design and Development Coordinator to focus on makerspace programs.

3. Special or Long Term Projects: 1. Sustainability of the Innovation Center Makerspace

Develop grants and funding; continue to integrate maker-centered learning into college processes and programs, e.g., Pathways.

2. Fermentation Science

Develop curriculum, class activities, partnerships and capacity.

3. Aquaponics v2.0/Smart Garden/IoT

Develop aquaponics and garden platforms to advance partnership with Inductive Automation.

4. Biomaterials

Continue to develop sustainable biomaterials efforts.

5. Design Thinking

Expand the role of Design Thinking in college decision making; provide DT training and support to college community

6. Wakamatsu Silk and Tea Farm Colony/Georgetown Nature Area.

Expand emerging partnership with the American River Conservancy, with the goal of developing Wakamatsu as an interdisciplinary field site. Expand emerging partnership with Georgetown Nature Area with the goal of establishing the nature area as an interdisciplinary field site.

6. Environmental Maker Curriculum

Develop curriculum for an Environmental Maker course in partnership with Biology faculty.

7. eSports

Building on the Innovation Center's successful eSports initiatives, and participating in planning and discussions related to the implementation of eSports in CCCAA, and the potential intersection with FLC Athletics.

8. Badges

Research and development on badging platforms, e.g., Badgr, initially for Innovation Center training, and potentially expanding to include Career Education programs and other competency-based learning.

4. Department/Discipline Plans - Curriculum and Course Sequencing: Though the department has submitted a two year plan for course sequencing of MAKR courses, the pandemic has dampened some of that energy, forcing us to cancel planned MAKR courses in Fall 2020 and Spring 2021. We continue to assist with Fermentation Science program development, and with a new Certified Manufacturing Technologist program in partnership with Career Education. We have completed MAKR course articulation agreement with Cordova High School, and have one in progress with Golden Sierra High School (BOMUSD) as well.

5. Program Development & Revision: MAKR program maps have been reviewed and are in need of adjustment.

6. Percent of SLOs assessed: Most of the courses in the MAKR program have yet to be offered, or have only been offered once or at most twice; as such, assessing both program and course SLOs has proven difficult.

7. Course SLOs - Synopsis: N/A

8. Course SLOs - Strategies for Improvement/Maintenance: N/A

9. Program SLOs - Synopsis: N/A

10. Program SLOs - Strategies for Improvement/Maintenance: N/A

11. Improving Course and Program Success Rates - Data Analysis: N/A

12. Improving Course and Program Success Rates - Strategies and Resources Needed: Access to learning support services/tutoring

N/A

Facilities--lack of access to labs

N/A

Infrequent course offerings/Scheduling and Location of Offerings

N/A

Outside challenges

N/A

Other

Difficulty finding part time faculty to teach what amount to rather unusual and cutting edge MAKR courses.

Collaborative learning

N/A

1 on 1 counseling

N/A

Learning Support Services (Library, Reading and Writing Center):

N/A

Online modalities

Technology

N/A

Transparency and timeliness in grading.

N/A

Workshops

N/A

Other:

N/A

D. Resources Needed

What resources does your department require to implement strategies identified above?

Information entered here will be considered by the IPC and deans

Compliance with the OEI, and with ADA/Section 508 in online courses will depend on the college and DSP&S to provide accessibility consulting, training, and resources to faculty as they convert courses. As the locus of information and services for students with disabilities, DSP&S is uniquely qualified to address issues of accessibility as they relate to all of FLC's students, including online students. The college should hire a full-time faculty DSP&S Coordinator, and a full-time Universal Design Specialist to help it meet its legal and moral obligations related to students with disabilities.

13. Suggestions for Improving the ADP/PR process: N/A

14. Is your ADP complete and ready for review by the Dean and Vice President?: N/A - Completing Program Review

Program Review Questions (skip if not completing program review)

15. Mission Statement: To identify, research, develop, and disseminate innovative teaching and learning strategies, tools and techniques to enhance the learning environment.

To support the growth of a vibrant and creative Innovation Center makerspace and community.

To advance local and regional maker-centered learning.

16. Pre-Requisite and Co-Requisite Validation: N/A

17. Maintaining Program Currency: Ongoing research, training, partnerships (internal and external) and resources will be

required to maintain the Innovation Center's cutting-edge programs.

18. Evidence of Program Relevancy: Folsom Lake College is recognized as a leader in maker-centered learning, as evidenced by our ongoing ability to secure grant and philanthropic resources, and by our participation in nationally recognized efforts including CCC Maker, Making Spaces, and Maker Fellows. [Awaiting data about lab access]

19. Is your PR ready for review by Dean/VP?: Yes