The following survey is intended to solicit your interest and capacity. A multi-college Letter of Interest is highly encouraged although single-college applicant is welcomed. Please submit a separate Section B for EACH interested community college associated with the lead applicant. Only community college districts are eligible. All letters received will be posted on the web page associated with this Solicitation. Colleges may still participate in the RFA without submitting a Letter of Interest, although submission of a Letter of Interest in highly encouraged.

Please direct any question to: innovationmaker@cccco.edu

Thank you!

SECTION A

Lead Applicant District/College:	**Los Rios Community College District**
Address:	**1919 Spanos Court, Sacramento, CA 95825**

Chief Executive Officer		
Brian King, Chancellor		
Name		
Primary Project Contact		
Jamey Nye		**Associate Vice Chancellor, Instruction**
Name		**Title**
916-563-3207	**916-563-3271**	**3/18/16**
Phone	**Fax**	**Date**
nyej@losrios.edu		
Email		

ATTACHED:

Section B Forms for
- **American River College**
- **Cosumnes River College**
- **Folsom Lake College**
- **Sacramento City College**

Please respond to the following questions so we can better understand the demand level:

0	Name of College:	**AMERICAN RIVER COLLEGE**	
1	**Describe where your college stands in the process** *(please check your stage of adoption)*		
		Our college has interest in exploring or is in the process of exploring how better to connect to the Maker movement.	
		Our college has already explored and has made a commitment to the Maker movement through formal action (e.g., resource commitment, Trustee vote, etc.).	
✓		Our college has explored, committed to, and has already set up a Makerspace.	
✓		Our college has a team consisting of at least a STEAM/STEAM faculty paired with a CTE faculty to champion this program on our campus.	
✓		Other: See attached overview of existing program.	
2	**Expertise You Can Contribute to the Community-of-Practice** *(please check all that applies)*		
✓		My college can help others explore, commit to, and set up a Makerspace.	
		My college can help others develop partnerships with industry/business/iHubs in order to 1) generate work-based learning opportunities for students and/or 2) secure financial support.	
✓		My college can help others form/develop partnership with grade 9-12 institutions to facilitate early career exploration.	
		My college can help others consider instructional strategies, including but not limited to 4C skills as well as technical skills, and how those strategies relate to community college courses, certificates, and programs.	
✓		My college can help others bring together STEM/STEAM and CTE faculty to champion the program.	
		Other:	
3.	**Please add any comments relevant to this intent survey** --		

0	Name of College:	COSUMNES RIVER COLLEGE	
1	**Describe where your college stands in the process** *(please check your stage of adoption)*		
✓		Our college has interest in exploring or is in the process of exploring how better to connect to the Maker movement.	
		Our college has already explored and has made a commitment to the Maker movement through formal action (e.g., resource commitment, Trustee vote, etc.).	
		Our college has explored, committed to, and has already set up a Makerspace.	
✓		Our college has a team consisting of at least a STEAM/STEAM faculty paired with a CTE faculty to champion this program on our campus.	
		Other:	
2	**Expertise You Can Contribute to the Community-of-Practice** *(please check all that applies)*		
✓		My college can help others explore, commit to, and set up a Makerspace.	
✓		My college can help others develop partnerships with industry/business/iHubs in order to 1) generate work-based learning opportunities for students and/or 2) secure financial support.	
✓		My college can help others form/develop partnership with grade 9-12 institutions to facilitate early career exploration.	
✓		My college can help others consider instructional strategies, including but not limited to 4C skills as well as technical skills, and how those strategies relate to community college courses, certificates, and programs.	
✓		My college can help others bring together STEM/STEAM and CTE faculty to champion the program.	
		Other:	
3.	**Please add any comments relevant to this intent survey** --		

The CCC's Innovation Maker initiative is in direct alignment with several of Cosumnes River College's (CRC's) institutional goals. For example, a driving goal of the Engineering department is to establish a Makerspace that supplements existing curriculum with hands-on fabrication. The space would incorporate elements such as the use of machining equipment, tools and 3D printing, and would be heavily utilized by the college's Career Technical Education departments (e.g. architectural design technology, architecture, construction). Several STEAM departments (e.g. Anthropology, Biology, the geosciences, Physics) have also expressed significant interest in a collaborative Makerspace.

Dr. Brandon Saller from the Engineering department and Professor Ed Mojica from the Architectural Design Technology department have been identified as potential lead faculty members for a new Makerspace. Dr. Saller brings considerable experience in 3D metal printing, blacksmithing, and the science behind the final build parts and their behavior in real-world applications. Professor Mojica, a licensed architect, brings extensive professional experience in the Architecture field and a mastery in spatial design concepts, including Building Information Modeling applications. These two departments could serve as the initial incubators for a Makerspace community.

A Makerspace at Cosumnes River College would also serve to strengthen existing initiatives in

career pathway alignment between local K-12 districts. CRC has established pathways with the Elk Grove Unified School District to promote student matriculation into building trades and design fields, as well as into fields aligned with energy efficiency and clean/green occupations. This work is supported by the California Pathways Trust Fund, through the Capital Academies Pathways (CAP) initiative. A Makerspace will further strengthen this pathway work, by providing a bridge between high school and the more advanced facilities in higher education, industry and government. Educational continuity from K-12, to the community college, to the university, and in to career pathways will be greatly enhanced by a Makerspace.

Dr. Saller has begun to leverage his extensive experience and industry contacts to achieve this goal. Most notably, he is connected to Autodesk, manufacturers of 2D and 3D design software for various levels of user experience. This is a very significant connection, as Autodesk currently has one of the largest Makerspaces in California. This space, in addition to many publicly available Makerspaces and Hackerlabs within the greater Sacramento metropolitan area, will serve as a model for Cosumnes River College.

0	Name of College:	**FOLSOM LAKE COLLEGE**	
1	**Describe where your college stands in the process** *(please check your stage of adoption)*		
		Our college has interest in exploring or is in the process of exploring how better to connect to the Maker movement.	
✓		Our college has already explored and has made a commitment to the Maker movement through formal action (e.g., resource commitment, Trustee vote, etc.).	
✓		Our college has explored, committed to, and has already set up a Makerspace.	
✓		Our college has a team consisting of at least a STEAM/STEAM faculty paired with a CTE faculty to champion this program on our campus.	
		Other: Folsom Lake College (FLC) has made a commitment to the Maker Movement in the following ways: 1. Formal resolution from the FLC Academic Senate supporting the redevelopment of the college's Innovation Center to create a comprehensive makerspace. 2. Involvement of the college Foundation in fund development for makerspace efforts. (To date, we have raised $25,000 to support re-equipping of the Innovation Center.) 3. A plan and proposed timeline for the Innovation Center makerspace renovation. 4. Early-stage discussions with the City of Folsom and potential business partners to establish a public/private partnership to create a makerspace in Folsom. 5. Activities and curriculum development in Making Across the Curriculum, an effort to infuse maker skills and culture across the curriculum, and an advisory group consisting of faculty from ECE, Chemistry, CIS, Library, Geosciences, Communication and Media Studies, Engineering, Art, Business and Theater Arts. 6. Draft certificates in Modern Making, and an advisory board for same. 7. A full-time faculty coordinator (and lifelong maker) to serve as a Maker in Residence for the college and to coordinate efforts. 8. Relationships with business and K-12 partners in the region in support of making. 9. Close working relationship with Sierra College to develop regional making initiatives.	
2	**Expertise You Can Contribute to the Community-of-Practice** *(please check all that applies)*		
✓		My college can help others explore, commit to, and set up a Makerspace.	
✓		My college can help others develop partnerships with industry/business/iHubs in order to 1) generate work-based learning opportunities for students and/or 2) secure financial support.	
✓		My college can help others form/develop partnership with grade 9-12 institutions to facilitate early career exploration.	
✓		My college can help others consider instructional strategies, including but not limited to 4C skills as well as technical skills, and how those strategies relate to	

		community college courses, certificates, and programs.	
✓		My college can help others bring together STEM/STEAM and CTE faculty to champion the program.	
✓		Other: Our college has a developed and documented a variety of Making Across the Curriculum activities, which can serve as models for other colleges looking to infuse making into their courses and programs. See http://www.flcinnovation.org/tag/making-across-the-curriculum/ and http://dolookdown.org	

3. **Please add any comments relevant to this intent survey** --

0	Name of College:	**SACRAMENTO CITY COLLEGE**	
1	**Describe where your college stands in the process** *(please check your stage of adoption)*		
✓	Our college has interest in exploring or is in the process of exploring how better to connect to the Maker movement.		
	Our college has already explored and has made a commitment to the Maker movement through formal action (e.g., resource commitment, Trustee vote, etc.).		
	Our college has explored, committed to, and has already set up a Makerspace.		
✓	Our college has a team consisting of at least a STEAM/STEAM faculty paired with a CTE faculty to champion this program on our campus.		
✓	Other: Sacramento City College (SCC) has been discussing the Hacker Lab and the Maker Movement for approximately one year. These discussions started as a grassroots faculty effort in the Business and Computer Information Science Division and have since expanded to include many departments, faculty and staff. Faculty, managers and staff have visited and participated in discussions with the Hacker Lab in Sacramento and Rocklin as well as Innovation Center at Folsom Lake College. Follow up meetings and research confirmed our desire to engage in this new and innovative educational endeavor. Our interests span faculty, student, industry and community engagement in creating an innovative and creative environment that encourages, supports and fosters entrepreneurship, innovation, good citizenship and leadership while utilizing community resources to create and retain jobs in our region. Our primary limitation has been access to funds, and the challenges of making participation affordable for students, especially those who are economically disadvantaged. Considering that SCC has been identified as a Hispanic Serving Institution (HSI) and is applying for a HSI grant focused on the integration of STEM/STEAM and CTE, using the making movement for educational enhancement is a worthy next step. SCC continues to run a yearly Allied Health Learning Community of Practice with our K-12 and local community college partners and a summer institute for high school students who are interested in allied health careers. SCC in conjunction with Sacramento State and the Sacramento City Unified School District has formed Sacramento Pathways to Success which is focused on preparing high school students for college level work in Math and English. SCC works closely with Career Pathway Trust Grantees (CAP/CRANE and STREAM) on curriculum alignment, course articulation and career pathways across industry sectors. SCC has established an ad hoc committee composed of faculty (STEM and CTE), classified staff and managers to explore and foster community engagement in the maker movement. This committee has met four times in the last six months and plans to establish a regular meeting schedule. Our goal is to provide making opportunities for faculty, staff and students to work together either on the campus or at an easily accessible location, to inform interdisciplinary curriculum and innovative program development as well as student learning outcomes, assessment and job creation, while utilizing hands-on, state-of -the art		

		technologies. Users will address and solve real world challenges which will prepare them for competition and job opportunities in a global and rapidly changing economy. SCC Business faculty assisted and advised students on the establishment of the "City Business Center" as a community resource for start-up projects and entrepreneurship. This student based organization will become an anchor tenant and assist SCC's maker movement in providing services at a designated location.	
2	**Expertise You Can Contribute to the Community-of-Practice** *(please check all that applies)*		
		My college can help others explore, commit to, and set up a Makerspace.	
		My college can help others develop partnerships with industry/business/iHubs in order to 1) generate work-based learning opportunities for students and/or 2) secure financial support.	
		My college can help others form/develop partnership with grade 9-12 institutions to facilitate early career exploration.	
		My college can help others consider instructional strategies, including but not limited to 4C skills as well as technical skills, and how those strategies relate to community college courses, certificates, and programs.	
		My college can help others bring together STEM/STEAM and CTE faculty to champion the program.	
✓		Other: Sacramento City College has already begun addressing the challenges and opportunities outlined here. While we have not completely resolved these challenges and opportunities, we look forward to working with others to share our experiences, learn from others and solve these challenges together.	
3.	**Please add any comments relevant to this intent survey** --		

Expanding the maker environment to include SCC is supported by the Sacramento and Rocklin Hacker Labs, Sierra College, Folsom Lake College, Latinos in Information Sciences and Technology Association (LISTA); Sac link at Sacramento State, SMUD, VSP, City of Sacramento, Valley Vision, NextEd; Sacramento Employment and Training Agency (SETA) and by the industry advisory committees for our career technical education programs. SCC will work closely with Sierra College and Folsom Lake College on their ongoing instructional innovation efforts. SCC is interested in participating in a Community of Practice, and on infusing making concepts, skills and culture throughout the curriculum and the community, as well as on creating work-based learning opportunities for students that are linked to the maker movement. These efforts will foster student competence and excellence in the 4 C's demanded by California's employers—critical thinking, creativity, collaboration and communications. We are fortunate to have the support and guidance of Sierra College, the first community college in the county to form a public-private partnership with a maker/hacker space. We have also begun talks on a cooperative arrangement with Area 52, a new innovation center near SCC's Davis Center. That new center has entered into an agreement with UC Davis and we hope this will allow SCC's students and faculty the opportunity for exploring ideas and experiencing a range of partners and mentors. We plan to model our work on the key strategies, instructional designs, and technical assistance available through Sierra College, Folsom Lake College and the Hacker Lab. We look forward to collaborating and networking with our sister colleges American River and Cosumnes River, regional resources, business mentorship and intellectual capital on creating a

regional hub that is accessible to all community college students and community stakeholders and is not based on college of attendance.

AMERICAN RIVER COLLEGE

AN
INNOVATIVE
MAKER SPACE

FACULTY
STUDENTS
INDUSTRY
COLLABORATION
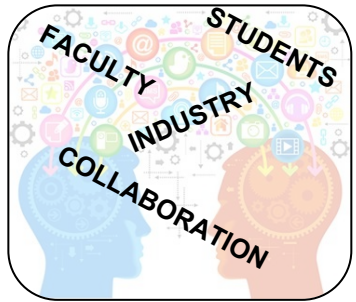
INNOVATION

AMERICAN RIVER COLLEGE
DESIGN TECHNOLOGY LAB

TECHNOLOGY

PERSONAL
TECHNICAL
SKILLS
ACADEMIC
VOCATIONAL

THOUGHT
PROVOKING

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

MISSION:

The mission of the Design Technology Lab is to provide an innovative maker space in which programs can utilize technology to improve student achievement in core areas.

VISION:

Through the use of design technology and interdisciplinary collaboration, programs can benefit a diverse student population by providing a maker space that supports:

outreach to underserved populations

a collaborative atmosphere for faculty-student, peer-peer, and industry-student learning and mentoring opportunities

access to technology that would be otherwise unavailable to underserved populations

a coordinated process for innovation and interdisciplinary collaboration between faculty, students, and staff

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Principles:

The Design Technology Center will strive to meet the needs of programs, their faculty and their students through a process that

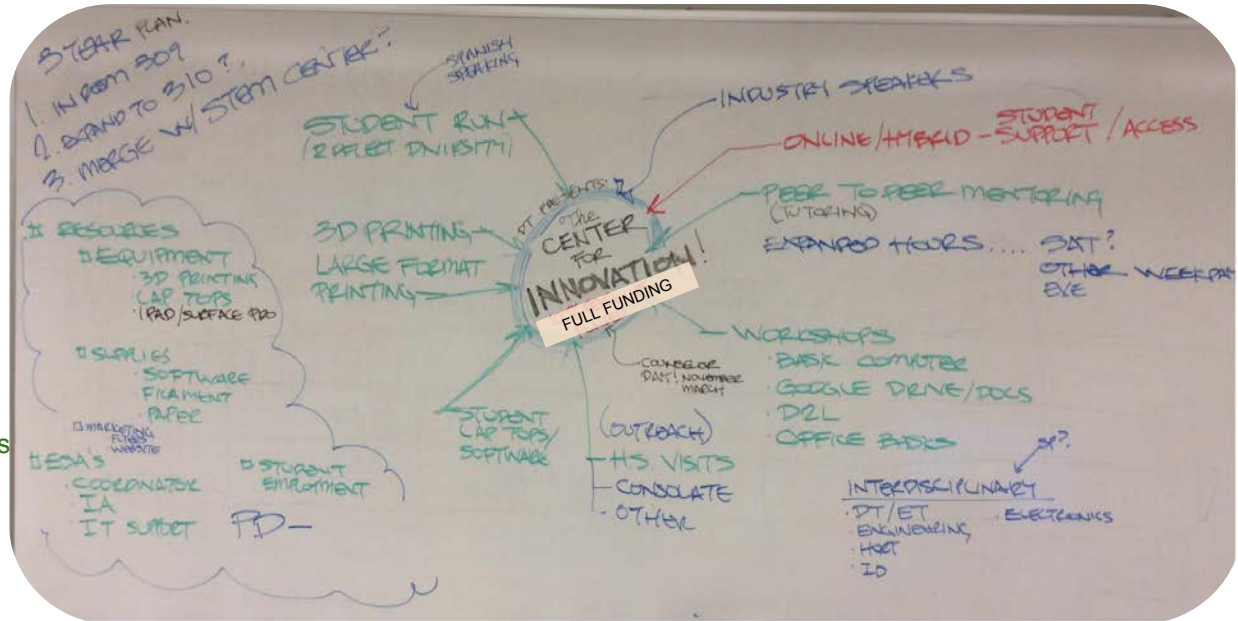Supports program's needs while respecting workload considerations of faculty and staff

Provides an innovative maker space that is integrated with existing college processes yet allows opportunity for nimble development

Relies on faculty expertise to make innovative ideas a reality

Relies on knowledge of a program's core needs as projects are developed and implemented

Meets the needs of a large college which includes a wide diversity of programs, faculty, staff, and students.
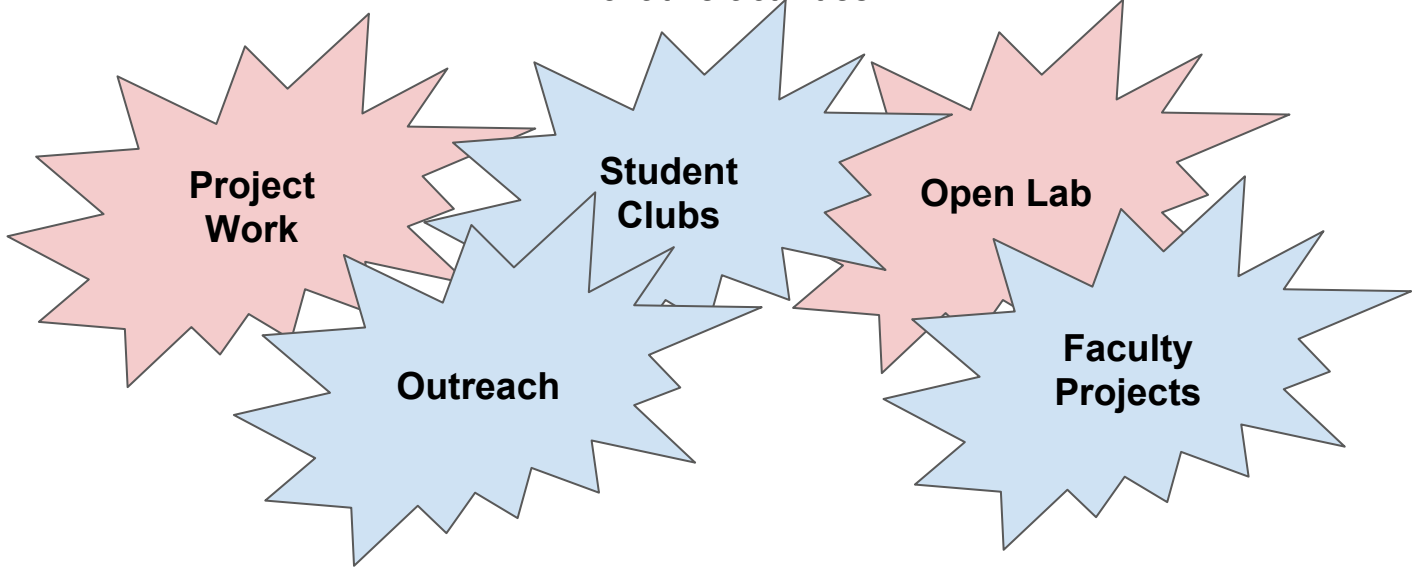
CONCEPT MAP

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

PROJECT PLAN:
The space will be modeled after the Room 309 Design Technology Lab which is currently being used to develop and test our ability to provide coordination and support to a wide variety of innovative activities.

Project Work

Student Clubs

Open Lab

Outreach

Faculty Projects

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

For the last two years, the Design Tech department has been developing an innovation / collaboration space using existing resources in room 309. Here is a list of departments & projects which are currently running.

Department	Project(s)
Anthroplogy	Mandible Sample Production for Physical Anthropology course / 3D printer training
Art New Media	Scan and print collaboration / Molecule Project / 3 department course development for 3D printing
Chemistry	Molecule Project (State Fair and coursework) / Equipment repair (3D printied replacement parts)
Computer Sciences	3 Department course development for 3D printing
Design Technology	Solar Boat Project / Irrigation Demonstration Project / High School Outreach Projects
Electronics	BB-8 working model project, Soldering class support (Pumpkin and Turkey projects)
Engineering Technology	Solar Boat Project
Horticulture	Floral Design Accessory Support
Music	Holdiay ornament production, Music library chart location project
Technical Theater	Puppetry proeduction support, BB-8 working model
Welding	Molecule Project

Project Work
Collaboration between
Faculty / Faculty
Faculty / Student
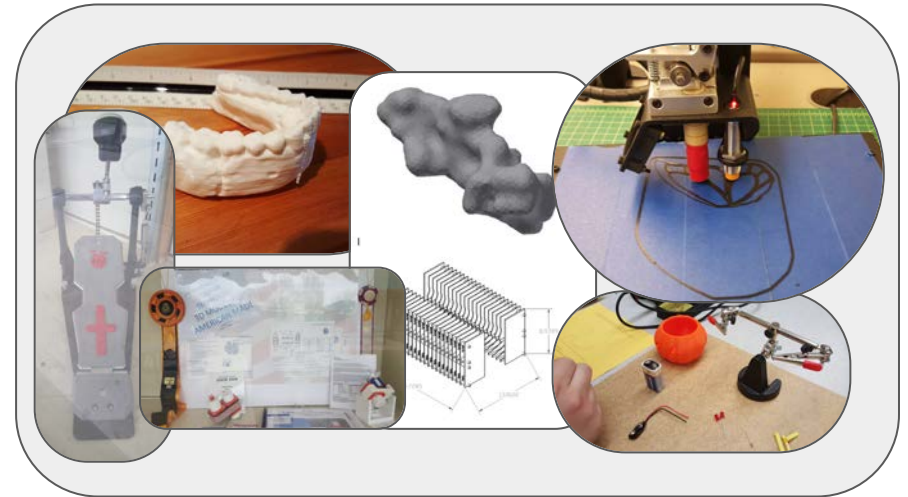
DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Guest Speakers	Bill Brackney - PE, Dept Water Resources David Fox, ARC CISP
Projects	Irrigation, Quad Copter, Biodiesel, Solar Boat, Mechanical Folder, LED Lighting Analysis
Field Trips	Parallax, SAC WWTP
Outreach	Sac Early College Prep, El Dorado High
Workshops	Portfolio, Inventor FEA, 3D Printing

Student Clubs
Engineering Club
Research Club
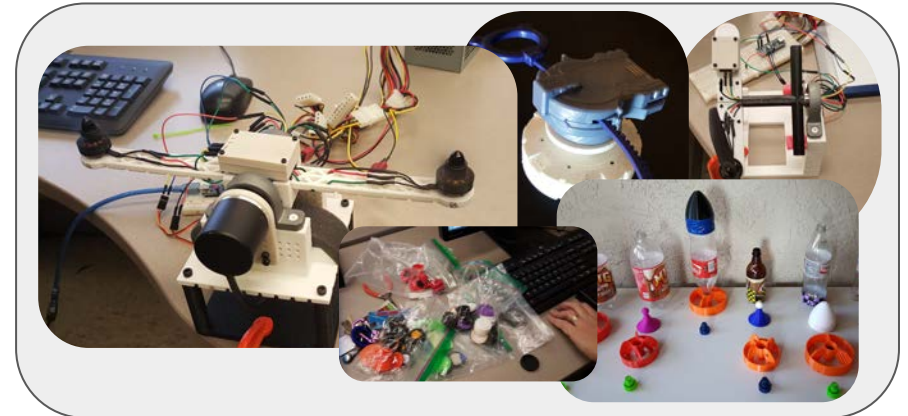
DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Articulation	DESGN 100, Portfolio Review, Class Visits
Recruitment	Mexican Consulate, Steps To Success, Art-Tech Day, Pathways to Paychecks
Intermediate, Secondary	Einstein Middle School, Woodland Montessori, West Sac Early College Prep, Davis High School
General Public	State Fair, Website, Student Showcase

Outreach
Design Tech
Engineering Club

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Software Related Assistance	AutoCAD, Revit, Inventor, Sketch-Up, Google Drive
Individualized Instruction	DT Courses Landscape Design
Peer to Peer Assistance	Courses, 3D printing, project work
Mentoring	Course planning, career advice, development of personal interests
Faculty Training	3D Printing, Google Drive

Open Lab
Design Tech
Landscape Design
Electronics
Engineering Club

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Molecule Model	Ben Samudio - Chemistry
BB-8	Jordan Meyer - Electronics
Floral Design Accessories	Debbie Flower - Horticulture
Mandible Models	Katrina Worley - Anthropology
Electronics Assembly Project	Heidi Fuller - New Faculty Academy
3D Printer Training	Christina Wagner - Center for Teaching and Learning
Google Drive Training	Innovate Conference

Faculty Projects

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Planning Guidelines

Flexibility
> The space must be flexible to allow for rapid change in technology and demand

Complexity
> Base the plan on the Start-Out_Simple (SOS) principle so that complexity can be increased with new knowledge and experience

Cost
> Cost factors must be broken into one-time and sustainable costs

Sustainability
> Plan must attend to sustainability in all phases of the space

Commitment
> Plan must incorporate institutional planning level commitments

Plan Components

Space Requirements
> Space must meet current needs and must accommodate some amount of growth Space may be multi-purpose in that some class time may be assigned to the space

Equipment Requirements
> Equipment plan may start with a smaller scope and may grow with demand and funding

Supplies Components
> Supplies may be categorized by who supplies them ... the college or the user

Coordination / Supervisory Components
> Space coordinator and user supervisor may be shared between departments or may be a College wide funding item.

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

BUDGET

BUDGET

YEAR 1 PLAN EXPANSION INCREASE SCOPE	**YEAR 2** PHASE 1A IMPLEMENTATION	**YEAR 3** PHASE 1B INSTITUTIONALIZE
EQUIP & SUPPLIES EXPAND SCOPE OF EQUIPMENT	**EQUIP & SUPPLIES** FURTHER EXPANSION OF EQUIPMENT	**EQUIP & SUPPLIES** EXPANSION & MAINT OF EQUIPMENT
FACILITY PLAN EXPANSION CONTINUE IN EXISTING	**FACILITY** MODERNIZE / NEW SPACE	**FACILITY** STRENGTHEN SPACE
Staff ADD IA & IT ADD COORDINATOR ADD STUDENT HELP	**Staff** INCREASE IA & IT INCREASE COORDINATOR INCREASE STUDENT HELP	**Staff** INCREASE IA & IT INCREASE COORDINATOR INCREASE STUDENT HELP

DESIGN TECHNOLOGY LAB
AN INNOVATIVE MAKER SPACE

Faculty Project Leadership:
- CTE
  - Design & Engineering Technology
    - Randy Schuster
    - schustr@arc.losrios.edu
- STEM
  - Computer Information Science
    - David Fox
    - Foxd@arc.losrios.edu
- STEAM
  - Art New Media
    - Matt Stoehr
    - StoehrM@arc.losrios.edu