CCC Maker + The Green Economy

Green Technology Summit, 2017

Presenters:
Deborah Bird, Pasadena City College
Thomas Cappelletti, Sacramento City College

Thursday, 27 April, 2017
What is CCC Maker?

- First statewide initiative to grow a system of community college makerspaces
- Innovative approach to grant funding, project management, workforce development
- Funded by the California Community College Chancellor’s Office, Workforce and Economic Development Division, Doing What MATTERs for Jobs and the Economy framework.
- 3 years (2016 – 2019)
- $17m
- 1000 Internships
The CCC Maker initiative will develop a community of maker spaces that welcome non-traditional students, support faculty in embedding making into instruction and offering adaptive curriculum, and partner with businesses to produce innovation-ready graduates inspired to contribute to the creative economy.
What is a Makerspace?

A community space where people use technology to design, prototype and share ideas.

Types:

• Academic – MIT FabLab
• Commercial – TechShop
• Public/private partnership – Hacker Lab powered by Sierra College
Makerspace

noun

a place in which people with shared interests can gather to work on projects while sharing ideas, equipment, and knowledge.

coming soon to scc
scc.losrios.edu/maker

YOU ARE A MAKER

scc.losrios.edu/maker

SAC CITY MAKERS!
SECOND MEET UP
BRAINSTORM

FRIDAY, APRIL 7 • 11 AM–12 NOON

MEET UP IN THE LAB @ BUS 151
IN THE BUSINESS BLDG
FIRST FLOOR

Brought to you by professors Terri Peterson, James Town, and more

WE NEED YOUR BRAINS

designed by Sam Liff
Why Making?

- California’s education pipeline is not keeping pace with the skills and education required by employers
- Entrepreneurship among young adults has declined
- Instructional delivery methods of the past are being replaced by more accessible, inexpensive and plentiful sources
Making = life long learning

• Current technologies integrated into work flows
• Problem solving, creativity, collaboration, critical thinking and communication
• Project based, real world problems
• Prepares students for STEAM/STEM and entrepreneurial careers
• Places students at the emergence of new technologies and workforce developments
• Cross-generational – Competency based
Making = economic value

- STEM/STEAM programs currency and relevance
- Employability and adaptability of workforce in middle skill jobs
- Applied technical skills
- Regional Economies
- Connects skills to capital
- Links to small business job creation and growth
Maker Movement meets Community College

- Sierra College – Fiscal Lead, Project Management – 2 public/private Makerspaces
- Advisory Committee – Leaders in Maker Movement and Industry
- Pasadena City College – Technical Assistance Provider – 5 years Campus Makerspace
- Specialized Service Providers – Entrepreneurship, 21st Century Skills, Pedagogy
Maker Movement meets Community College

- Using Maker Movement processes to drive project design
- Cohort of Colleges collaborate through Start-up Phase
- Colleges compete for funding for two year project
- Interdisciplinary Teams use Design Thinking to:
  - Identify problems
  - Experiment with prototypical solutions
  - Implement and share successful ideas
Participating Colleges

- 67 colleges responded
- 34 colleges signed up
- 15 colleges have some makerspace resources
- 2 Ecosystem Mapping Workshops
- 6 Regional Meet-ups
- 10 Webinars
- Ongoing Newsletters – cccmaker.com
CCC Maker Timeline Funding

Makerspace Start-up Seed Funding
December 2016 – June 2017
- $20k upfront
- $20K on submission of Start-up Report
- Accounting Requirements

Implementation Competitive Funding
July 2017 – June 2018
- Full Application
- Competitive Process
- 2 Year Award

Implementation Continuing Funding
July 2018 – June 2019
- 2nd Year Funding contingent on 1st Year Outcomes
CCC Maker Key Outcomes

- Interdependent Outcomes
- Aligned to state initiatives
  - Strong Workforce
- Student Centered

- Curriculum
- Community of Practice
- Makerspace
- Internships
Community of Practice:
Develop and collectively learn best practices in using makerspaces to prepare students for work in the creative economy.

Ecosystem Mapping

- Internal + External
- Makes Network Visible
- Shows
  - Strengths
  - Opportunities
  - Gaps
CCC Maker Key Outcomes

**Curriculum:**
Embed making into academic curriculum and give access to makerspaces that allow informal learning, networking and cross-discipline connections.
Curriculum

• Credit / Non-credit / Not for credit
• Interdisciplinary Collaboration
• Digital Badging - Skills
• Short term + Industry credentialing
• 21st Century Skills Integration
• Informal Curriculum
  • Workshops, Meet-ups, Hackathons
  • Clubs, K-12 Collaboration, Academies, Jams
  • Mentoring, Entrepreneurship, Student Start-ups
Internships:
Provide work-based learning through internships, mentoring and collaborative experiences in the makerspace and with industry partners.
Internships

- Funded separately from College Grants
- Foundation of California Community Colleges – employer of record
- 20 hours paid, employer or other matching up to 60 hours
- Part of Work based learning continuum
- Linked to Makerspace use and portfolio
- Flexible types
  - Traditional
  - Industry Collaboration
  - Approved Student Entrepreneurship Plan
Develop makerspaces that are inclusive and uniquely reflect the community’s demographics and employment needs.
Makerspaces

• Dispersed Model
• Allan Hancock College
• Santa Maria Public Library
• Santa Maria Valley Discovery Museum

MAKERSPACE WEEKEND
MAY 5-6 | FUN FOR ALL AGES!

FRIDAY, MAY 5
6pm - 8:30pm
ALLAN HANCOCK COLLEGE
FRIDAY NIGHT SCIENCE
Tear Apart Station
Tin Can Robots
Laser Engraving
Manual Typewriters
+ More!

SATURDAY, MAY 6
10am - 4pm
SANTA MARIA PUBLIC LIBRARY
Laser Engraving
Book Art
Button Making
Origami
+ More!

SANTA MARIA VALLEY DISCOVERY MUSEUM
Tin Can Robots
Circuit Bugs
Catapults
Kinetic Statues
+ More!

Powered By:
Doing What MATTERS™
For Jobs and the Economy
Making and the Green Economy

- Challenges consumer models
- Design innovation and quality
- Open Source acceleration
- Entrepreneurship + Sustainability = Social Justice
- Lean Launch
- Combined job growth potential
Folsom Lake College

Innovation Center – Zack Dowell

Aquaponics Project

• Data Science Students
• Data Display
• Design and Fabrication
• Rapid Prototyping
• Library Site
Laney College FabLab

Danny Beesley + Kim Gonzalez

Community College Innovation Challenge Finalist

• National Science Foundation
• American Association of Community Colleges
• Homeless housing
• Digital Fabrication
• Safe, inexpensive, minimal waste

College of San Mateo

Project Director: Hillary Goodkind

CCC Maker Sustainability Initiative:

- Coordinate multiple activities
- Organizations
- College facilities
- Monitor and manage campus waste services.
- Includes graphic design, biology, mechatronics, logistics
Other Sustainability Initiatives:

American River College
Solar Generators for Haiti

Pasadena City College
USGBC - Leed

Woodland Community College
Aquaponic Lab + Coffee Stand

Palomar College
Lean Manufacturing Internships
What’s Next?

• Celebration Meet-up – May 19 – Present Implementation Plans
• Makerfaire – Bay Area – May 20 – 21 – College Projects
• Implementation Grant Proposals – June 16
• Awardees announced and funded – July
• Industry Outreach
Creating a Network of Community Colleges with Makerspaces: California’s CCC Maker Model

- Sign up for newsletter at cccmaker.com
- Contact deborah@cccmaker.com or salomon@cccmaker.com