CCCLLI Project – Pasadena City College

Catalyst for Change

CAA Convening 9/21/12
25,000 Students
Single Campus
Pasadena Unified School District
23% Enrollments CTE
First Cohort, Fall 2011

40% Hispanic
28% Asian/Pacific Islander
20% White
6% African American
Design Tech Pathway Team
2010 – 2012
If you want to go fast, go alone
If you want to go far, go together.

Salomon Davila, Engineering
Jay Cho, Math
Deborah Bird, Architecture
Kathy Kottaras, English
Design Technology Pathway Model

Interdisciplinary, Problem Based, Contextualized Basic Skills Math and English using Design Thinking and Rapid Prototyping Technology leading to increased student success, certificates, degrees and transfers in a broad range of design and technology based careers.
disciplines

technology + fabrication

basic skills

Architecture
Building
Engineering
Product Design
2 + 3D Design
Interior Design
Jewelry
Fashion
Graphic Design
Printing
Theater
Welding
Business

Design Systems
CAD Modeling
3D Printing
CNC / Robotics
Laser / Plasma Cutting
Vacuum Forming

Math
English
Design Boot Camp
Why Cross disciplinary?

Strategic experimentation
Forward momentum
Soft skills + content skills
Technology breaks disciplines
Sample Contextualized Assignments

Problem Statement:
Design series of interlocking pieces containing a letter based on a designed font to play a physical version of words with friends. Dimensions of pieces have to be determined through fractional precision and laser cut.

Math Outcomes
- Measure and draw to 1/16th of an inch accuracy
- Add, subtract and divide with mixed numbers
- Calculate perimeter and area of rectangle

English Outcomes
- Conduct research
- Summary Report explaining strategy of calculating measurements
- Presentation of font

Design Outcomes
- Design of font based on common concept
- Sketching using proportions
- Develop spatial reasoning

Technology Outcomes
- Generate Computer-Aided Design Graphics
- Operate a laser cutter in the production of pieces
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<th>Cohort 1</th>
<th>Census</th>
<th>Student Retention Design Tech</th>
<th>Student Retention Baseline</th>
<th>Student Success</th>
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<td>General Basic Skills Hispanic</td>
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<td>General 68% BS Hispanic</td>
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<td>82%General Basic Skills Hispanic</td>
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Design Tech Pathway

• Year 1 – College Readiness
  • College 1 – Speech 1
  • Design Tech 100 – Design Tech 101
  • Math 402 – Math 125
  • English 100 – English 1A

• Year 2 – Workforce Readiness
  • National certification – Work Keys, ABET

• Year 3 – Specialized Discipline

• Year 4 – Degree/Transfer
Engineering Technology Pathway
Mechanical/Electrical/Manufacturing Option

Assessment Tests

Summer Up Start

High School Articulations

Non Credit Courses

DesignTech

CTE

Engineering Technology

Engineering

General Education

COLLEGE 1

ENGL 400
ENGL 902

GE Diversity

GE Social Science

GE Humanities

GE Speech I

GE History

GE Poli-Sci

GE Health

GE P.E.

English

ENGL 100
ENGL 901

ENGL 1A

ENGL 1B

Design Disclosure

Chem 22

Phys 2A

Science

Chem 1A

Phys 1A

Phys 1B

Technology

DE 100
DesignTech

DesignTech FabLab

BUS 112

DesignTech

DesignTech

Tech 107A

Fabrication

Production

Discipline

Electronics

Graphics

Robotics

Math

Math 402

Math 125

Math 131

Math 7A

Math 7B

Math 5A

Math 5B

Math 5C

Math 55

Design Tech Certificate 17 Units

Engineering Technology Certificate 18 Units

AS Degree Engineering Technology 60 Units

Discipline Certificates 12 Units

AS-T Degree Engineering >60 Units

Design Tech Certificate 17 Units

Engineering Technology Certificate 18 Units

AS Degree Engineering Technology 60 Units

Discipline Certificates 12 Units

AS-T Degree Engineering >60 Units

PASADENA CITY COLLEGE
Edtech – Professional Development

All Education is Career Education
Bridging Academics and Career Ed
Contextualized Curriculum Opportunity
Through a combination of academic courses and visual arts and design projects, you will be armed with real-world skills and hands-on experience to pursue an art or design career or to attend your college of choice. This four-year program features two specialized disciplines. Following the 9th grade introductory year, students choose a specialty in either visual arts and design or graphic communications. CAMAD provides you with the opportunity to create original work, develop client-based projects, and build confidence and knowledge in the field of creative arts, media and design.

Develop communication, technological, and art skills with our state-of-the-art facilities on campus. An extensive course curriculum includes fine arts, graphic design, multimedia design, video editing, screen-printing, digital printing, sculpture, and illustration. You will learn everything from introductory computer graphics and fundamental art skills to advanced art and design techniques, allowing you to create a well-rounded portfolio. By integrating art and design with a college-preparatory curriculum, you will receive a solid education and an extensive understanding of how art is used in society.

- Learning Adobe Creative Suite software, including Photoshop, Illustrator, InDesign, Dreamweaver, Flash, and Bridge.
- Scholarships and internships with Pathway partners and local arts organizations to help polish your talents to excel in higher-level artistry.

You'll be trained from 9th to 12th grade in music, drama, film and video production, photography, painting, sculpting, and other fine arts. Fine-tune your creative energy, master self-expression, and hone your critical thinking and problem solving in classes like Graphic Design, Animation, and Film/Video Production that prepare you for a career in the arts. Plus, turn your natural gifts and artistic passions into real-world skills through career insight opportunities at art centers and design firms that provide behind-the-scenes job shadowing and hands-on training, including internships.

You can even volunteer alongside top industry professionals and artists at the Senior Film Festival—the perfect place to mingle with local talent, learn production skills, and get a taste for a career in entertainment...in and out of the spotlight. Your path is what you make it!

- Creation of a senior portfolio of your work spanning four years in the arts; presented to a panel of professionals and industry insiders who assess the craftsmanship behind each piece, helping you to determine the next step in your journey—college or career.
PUSD – PCC
2011 - Pasadena Partnership for College Success

• Graduate more students who go on to college
• College readiness in English and Math
• Transfer Curriculum Major, STEM
• Reduce achievement gap

• Guaranteed Enrollment in Full Class Schedule
• Math and English in first quarter, CSULA
CCC Linked Learning Initiative

- Arts, Media and Entertainment Industry Sector
- Career Ladders + Irvine Foundation
- 2 year project
- Pasadena High School
  - Creative Arts, Media and Design Academy
- John Muir High School
  - Arts, Entertainment and Media Academy
- Develop 2 Pathways
  - Design Technology Pathway
  - Media Production Pathway
CALIFORNIA INDUSTRY SECTOR PATHWAYS

Energy & Utilities:
- Electromechanical
- Industrial & Maintenance
- Energy & Environmental Technology
- Public Utilities
- Residential & Commercial Energy and Utilities

Health Science & Medical Technology:
- Biotechnology Research & Development
- Diagnostic Services
- Health Informatics
- Support Services
- Therapeutic Services

Marketing, Sales, & Services:
- E-commerce
- Marketing, Sales, & Service
- Professional Sales & Marketing

Arts, Media, & Entertainment:
- Performing Arts
- Production & Managerial Arts

Engineering & Design:
- Architectural & Structural Engineering
- Computer Hardware, Electrical, & Networking Engineering
- Engineering Design
- Engineering Technology
- Environmental & Natural Science Engineering

Finance & Business:
- Accounting Services
- Banking & Financial Services
- Business Services

Education, Child Development, & Family Services:
- Early Childhood Education
- Consumer Services
- Culinary

Transportation:
- Aircraft & Aerospace Technology
- Marine Technology
- Transportation Services

Information Technology:
- Information Support & Services
- Media Design & Services
- Networking & Systems Development

Fashion & Interior Design:
- Fashion Design
- Interior Design
- Apparel Design

Building Design & Construction:
- Civil Engineering & Water Works
- Engineering & puppies
- Interior Design
- Residential & Commercial Design

Public Services:
- Human Services
- Legal & Government
- Social Services

Hospitality, Travel, & Tourism:
- Food Service, Culinary, & Tourism
- Food Service & Hospitality

To find out how you can pursue your passion, check out whodouwant2b.com
Building Pathways, Ensuring Completion
Creativity, Technology, Contextualization, Innovation

**High School**
- Creative Arts, Design & Media Academy
  - Pasadena High School
- Art, Entertainment & Media Academy
  - John Muir High School

**PCC Transition**
- Present 2012
  - JAMS design technology
  - Outreach
  - Tracking

**Pathways**
- Year One 2013
  - Early assessment
  - Outreach
  - Supplemental support
  - Tracking

**Completion**
- Year Two 2014
  - Early assessment
  - Outreach
  - Supplemental support
  - Tracking

**Industry Partners**
- Advisory committee

**Design Technology Pathway**
- Product design, graphic design, architecture, engineering, fashion, photography, robotics, business

**Media Production Pathway**
- Broadcasting, webcasting, directing, producing, editing, animation, web design, visual fx, set design
CCC Linked Learning Initiative

• Outcomes:
  • Increase Students from Academies to PCC Pathways
  • 65% PUSD LLA Students complete English 1A and Math 131 in first year
  • 85% persistence into 2nd Year of Pathway
  • Increase completion of Certificates, AA/AS Degrees and Transfer
CCC Linked Learning Initiative

• Challenges and Solutions:
  • Who are our Students? Data Tracking from HS to CC
    • IPRO and external evaluators link with HS Data
    • Independent Data Base – Teaching and Learning Center
    • Qualitative Data – Action Research
  • Who are our Learning Facilitators?
    • High School Teachers Stretched
    • TV Radio Broadcasting Program
    • Learning Communities
    • Learning Support
CCC Linked Learning Initiative

• Challenges and Solutions:
  • PCC Pathways as Destination
    • Outreach – Ambassadors, Coaches
    • Summer and Bridge Jams
    • Early and Dual Enrollment
    • Robotics Fair – Middle School
  • Basic Skills
    • Contextualized English and Math
    • Supplemental Support
  • Certificate Completion
    • Developing more integrated Certificates
    • Cross disciplinary Certification
CCC Linked Learning Initiative

• Industry Relationships:
  • Advisory Committees
    • Internal across disciplines and cte programs
    • Local Industry Partners
  • Internship
    • Shadowing, Internship, Placement
    • Credit for Internship
  • Industry Partnerships
    • Studios
    • Designers
CCC Linked Learning Initiative

• Transfer
  • Articulation
  • Summer Jams and Bridges
  • Faculty Exchange
Problem Statement:
Design a one person design studio to specific spatial and material constraints. Design furniture that fits you perfectly. Furniture includes: chair, desk, working desk and shelf.

Math Outcomes
- Measure and draw to tenth of cm accuracy
- Solve proportion equations (operations with decimals)
- Apply proportion equations in determining Architectural scales

Design Outcomes
- Apply human scale to produce an architectural design for a studio space.
- Sketching of furniture based on scaled model
- Apply material efficiency strategies to minimize waste.

English Outcomes
- Conduct research of designers, equipment and industry
- Summary Report explaining strategy of calculating measurements
- Presentation of studio and calculations

Technology Outcomes
- Operate a laser cutter in the production of model
- Generate movie fly-through and design graphics for presentation.
- Generate Computer-Aided Design Model and flat pattern