How CCPT Grants Leverage the IT Model Curriculum and IT Technician Pathway

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Presentation Overview

welcome

- Introduction

- CCPT Strategies and Goals for the ICT/DM Sector

- IT Model Curriculum and the IT Technician Pathway: Pathways to High-Demand Careers

- Building K12-CC Bridges with the IT MC and ITTP

- High Quality Pathways Defined and in Development

- Discussion/Q & A

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Career Ladders Project

"Career Ladders Project works in partnership with California Community Colleges state-wide to provide educational and career advancement for Californians. We foster these opportunities through research, policy initiatives and strategic assistance to colleges and their workforce development partners"

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CCPT Grant Goals and Objectives

California Career Pathways Trust

"The overarching goal of the CCPT is to **build robust partnerships between employers, schools, and community colleges** in order **to better prepare students for the 21st century workplace** and **improve student transition into postsecondary education, training, and employment."** CCPT RFA March 2014

Local Education Agencies and Post-Secondary Education collaborating to increase the number of students:

- Successfully enrolling in and completing career pathways programs in HS and CC, including early college credit
- participating in work-based learning,
- graduating from high school,
- receiving CTE certificates
- associate degrees
- transferring from CC to a 4-year program
- entering employment or training

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California Career Pathways Trust

CCPT Grants and the ICT/DM Sector

Career Ladders as TA

ICT from Mendocino to Long Beach! Including...

Northern California Career Pathway Alliance

East Bay Career Pathways Trust

Diablo Valley Gateway Initiative

San Francisco Career Pathways Trust

Santa Clarita Valley Career Pathways Trust

LA Hi-Tech

Desert

Long Beach Career Pathways Trust

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California Career Pathways Trust

23% of the $250M funded in 2015 was awarded to partnerships with focus on ICT/DM

Chico Unified School District	**$5,316,626.00**
Downey Unified School District	$5,882,229.00
East Side Union High School District	$5,821,517.00
Eden Area Regional Occupational Program	$5,852,220.00
Kern Community College District	$9,587,776.00
Livermore Valley Joint Unified School District	$5,891,614.00
Los Angeles Community College District	$15,000,000.00
Metropolitan Education District	$6,000,000.00
Placentia-Yorba Linda Unified School District	$6,000,000.00
Porterville Unified School District	$5,168,622.00
Riverside Community College District	$12,860,892.00
San Diego County Office of Education	$13,128,255.00
San Francisco Community College District	$5,999,342.00
San Jose Evergreen Community College District	$13,173,153.00
Santa Ana Unified School District	$6,000,000.00
Santa Clarita Community College District	$5,550,412.00
SIATech	$5,387,091.00
Sutter County Office of Education	$7,701,570.00
Ventura County Office of Education	$10,203,318.00
Visalia Unified School District	$4,777,670.00

Why an IT Model Curriculum

MPICT's 2011 Phase 3 Environmental Scan of CCC ICT Education findings:

Departments:
- 295 different departments w/ 177 different names (avg 2.6/college)
- 149 department names used only once
- most common - Computer Science (CS) with 24 instances
- 43K different department articulation possibilities

Degrees:
- 624 different associate level degrees with 438 unique degree titles
- 374 degree titles used only once
- most common - A.S. in Computer Science with 35 instances
- 195K different degree articulation possibilities

Academic Certificates:
- 1,500 certificates with 1,183 unique titles
- 1,049 certificate titles used only once
- most common–Computer Information Systems, with 26 instances
- 1.1M different certificate articulation possibilities

This devalues all CCC academic ICT credentials, because employers do not understand what credential holders know and can do

IT Model Curriculum

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The Value of an IT Model Curriculum

IT Model Curriculum

Provides ICT coherency alignment and harmonization articulation and transfer

- **From K-12 to CCC**
- From K-12 to 4-year college or university
- From CCC to 4-year college or university

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IT Model Curriculum

CCC Major or Area of Emphasis: _Information Technology_____

CSU Major or Majors: _Information and Communication Technologies,

_Information Systems, Information Technology_____

Total units___22-23___ (all units are semester units)

Degree Type (indicate one): AA-T_____ OR AS-T_____ OR MC __X___

Required Core Courses:

__13___units
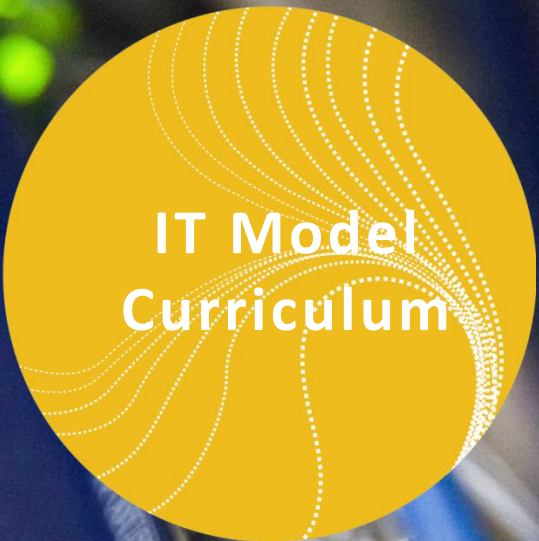
Title (units)	C-ID Designation	Rationale
Information & Communication Technology Essentials (4)	ITIS 110	Essential Preparation
Business Information Systems, Computer Information Systems (3)	ITIS 120	Essential Preparation
Introduction to Programming Concepts and Methodologies (3)	ITIS 130 or COMP 112	Essential Preparation
Computer Network Fundamentals (3)	ITIS 150	Essential Preparation

Select __6___ units or __2__ courses from the following:

Introduction to Systems Analysis and Design (3)	ITIS 140	Important Preparation
Routing and Switching Essentials (3)	ITIS 151	Important Preparation
Systems and Network Administration (3)	ITIS 155	Important Preparation
Introduction to Information Systems Security (3)	ITIS 160	Important Preparation
Introduction to Cybersecurity: Ethical Hacking (3)	ITIS 164	Important Preparation
Digital Forensics Fundamentals (3)	ITIS 165	Important Preparation
Introduction to Database Management Systems (3)	ITIS 180	Important Preparation
Business Communication (3)	BUS 115	Important Preparation

Select _3 - 4___ units or __1__ course from the following:

Introduction to Statistics (3)	MATH 110	Also fulfills CSU GE Area B4
Finite Mathematics (3)	MATH 130	Also fulfills CSU GE Area B4
Business Calculus (3)	MATH 140	Also fulfills CSU GE Area B4
Single Variable Calculus I Early Transcendentals (4)	MATH 210	Also fulfills CSU GE Area B4

IT Model Curriculum

IT Model Curriculum Core Courses = **Early College Credit Opportunities**

Title (units)	C-ID Designation
Information & Communication Technology Essentials (4)	ITIS 110
Business Information Systems, Computer Information Systems (3)	ITIS 120
Introduction to Programming Concepts and Methodologies (3)	ITIS 130 or COMP 112
Computer Network Fundamentals (3)	ITIS 150

IT Technician Pathway

	Course Name or Topic	Relevant 3rd Party Certification
Computer Retail Sales & Support **Stage 1**	Introduction to Retail or Business Fundamentals Customer Service/Human Relations **Business Communications (BUS 115)** Microsoft Office Essentials **Information & Communications Technology Essentials (IT IS 110)** **Business Information Systems, Computer Information Systems (ITIS 120)**	CompTIA A+
Help Desk User Support **Stage 2**	**Computer Network Fundamentals (ITIS 150)** **Systems and Network Administration (Network Operating Systems) (ITIS 155)** Installing, Configuring & Administering a Microsoft OS (Desktop Support Tech I) **Introduction to Information Security Systems (IT IS 160)**	CompTIA Network+ MCSA Server 2012 Microsoft MCTE CompTIA Security+
IT Technician **Stage 3**	**Routing & Switching Essentials (ITIS 151)** Installing, Configuring and Administering Linux Operating System **Certified Ethical Hacker (ITIS 164)**	Cisco CCENT CompTIA Linux+ CEH by E.C.
Further Specialization Options	Mobility and Mobile Design Preparation for CCNA Cloud Essentials Project Management or Process Improvement	CompTIA Mobility+ Cisco CCNA CompTIA Cloud+ CompTIA Project+

LMI

Preparing Students for the Job Demand

	New Jobs	% Change	Openings	Median Hourly	Degree Required
Computer Network Support Specialists	1,121	14.10%	1,829	$39.72	Associate
Computer User Support Specialists	4,617	25.20%	6,352	$31.38	Some college, no degree
Computer Operators	52	3.20%	177	$22.85	HS diploma or equivalent

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High Quality Pathways

When done well, pathways:

- **Include on-ramps or bridge programs** for underprepared students with limited basic skills and youth and adults with barriers to employment

- **Span the entire range of programs** from entry level, intensive "bridge" programs through occupational certificates and academic degrees

- **Are stackable in design** with certificates "nested" in longer transfer and degree structures, always preparing students for the next step

- **Contextualize basic skills and technical content** to the knowledge and skills needed in a specific occupation or group of occupations

High Quality Pathways

When done well, pathways:

- **Provide an effective framework for workforce development** by aligning with industry needs and integrating the resources

- **Focus on careers in demand** that provide family-sustaining wages and ongoing advancement opportunities as confirmed by industry partners

- **Include work based learning opportunities** through structured experiences which could be credit-based and/or paid work experience, internships, or service learning

- **Use and promote data** and focus on continuously improving outcomes

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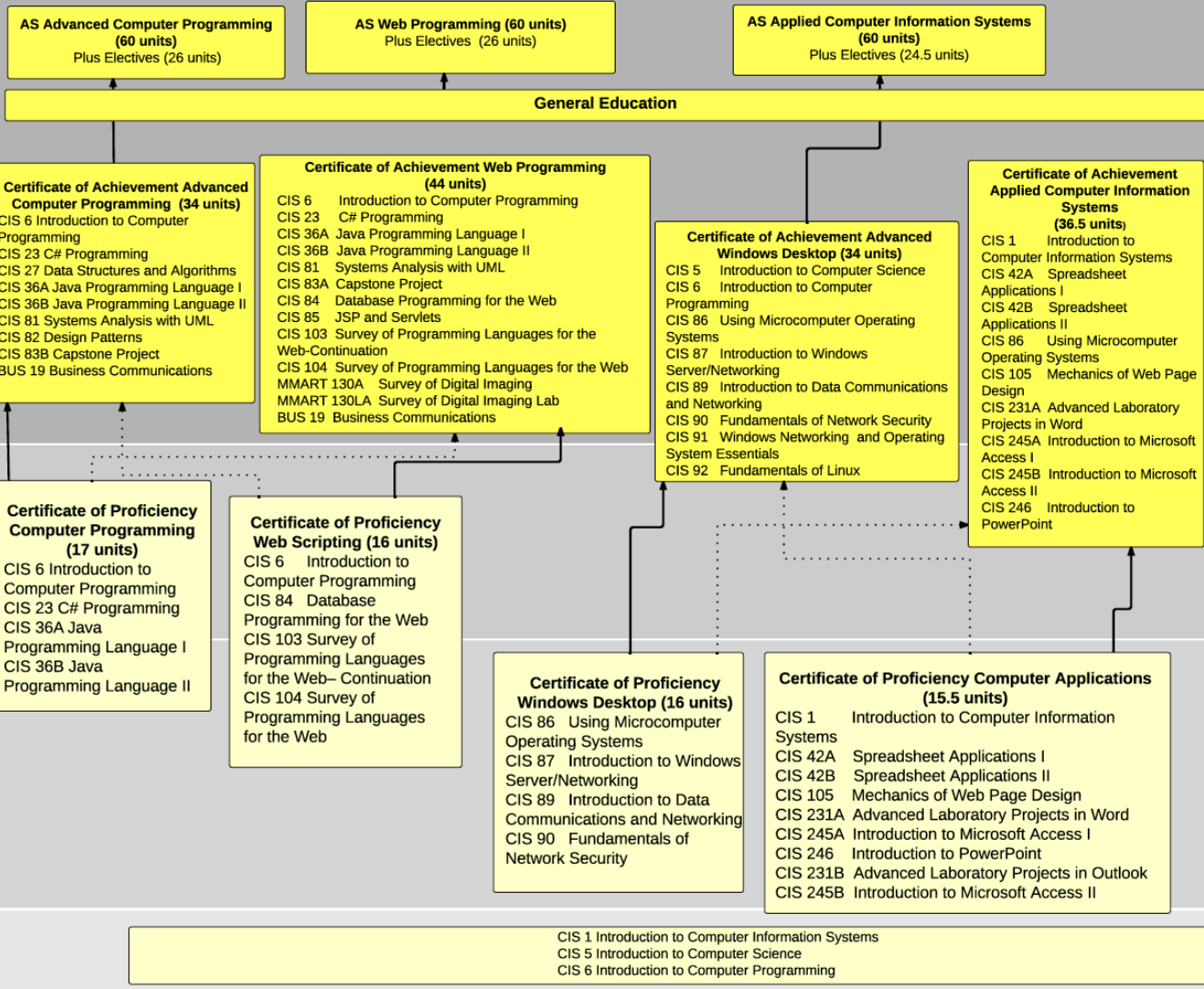
ACADEMIC PROGRAM OF STUDY

BERKELEY CITY COLLEGE 1974

DESIGN IT
BUILD IT
SHIP IT DBS

UNIVERSITY LEVEL

ADVANCED LEVEL

AS Advanced Computer Programming (60 units)
Plus Electives (26 units)

AS Web Programming (60 units)
Plus Electives (26 units)

AS Applied Computer Information Systems (60 units)
Plus Electives (24.5 units)

General Education

Certificate of Achievement Advanced Computer Programming (34 units)
CIS 6 Introduction to Computer Programming
CIS 23 C# Programming
CIS 27 Data Structures and Algorithms
CIS 36A Java Programming Language I
CIS 36B Java Programming Language II
CIS 81 Systems Analysis with UML
CIS 82 Design Patterns
CIS 83B Capstone Project
BUS 19 Business Communications

Certificate of Achievement Web Programming (44 units)
CIS 6   Introduction to Computer Programming
CIS 23   C# Programming
CIS 36A Java Programming Language I
CIS 36B Java Programming Language II
CIS 81   Systems Analysis with UML
CIS 83A Capstone Project
CIS 84   Database Programming for the Web
CIS 85   JSP and Servlets
CIS 103 Survey of Programming Languages for the Web-Continuation
CIS 104 Survey of Programming Languages for the Web
MMART 130A   Survey of Digital Imaging
MMART 130LA Survey of Digital Imaging Lab
BUS 19 Business Communications

Certificate of Achievement Advanced Windows Desktop (34 units)
CIS 5   Introduction to Computer Science
CIS 6   Introduction to Computer Programming
CIS 86   Using Microcomputer Operating Systems
CIS 87   Introduction to Windows Server/Networking
CIS 89   Introduction to Data Communications and Networking
CIS 90   Fundamentals of Network Security
CIS 91   Windows Networking and Operating System Essentials
CIS 92   Fundamentals of Linux

Certificate of Achievement Applied Computer Information Systems (36.5 units)
CIS 1   Introduction to Computer Information Systems
CIS 42A   Spreadsheet Applications I
CIS 42B   Spreadsheet Applications II
CIS 86   Using Microcomputer Operating Systems
CIS 105   Mechanics of Web Page Design
CIS 231A Advanced Laboratory Projects in Word
CIS 245A Introduction to Microsoft Access I
CIS 245B Introduction to Microsoft Access II
CIS 246   Introduction to PowerPoint

MID LEVEL

Certificate of Proficiency Computer Programming (17 units)
CIS 6 Introduction to Computer Programming
CIS 23 C# Programming
CIS 36A Java Programming Language I
CIS 36B Java Programming Language II

Certificate of Proficiency Web Scripting (16 units)
CIS 6   Introduction to Computer Programming
CIS 84   Database Programming for the Web
CIS 103 Survey of Programming Languages for the Web– Continuation
CIS 104 Survey of Programming Languages for the Web

ENTRY LEVEL

Certificate of Proficiency Windows Desktop (16 units)
CIS 86   Using Microcomputer Operating Systems
CIS 87   Introduction to Windows Server/Networking
CIS 89   Introduction to Data Communications and Networking
CIS 90   Fundamentals of Network Security

Certificate of Proficiency Computer Applications (15.5 units)
CIS 1   Introduction to Computer Information Systems
CIS 42A   Spreadsheet Applications I
CIS 42B   Spreadsheet Applications II
CIS 105   Mechanics of Web Page Design
CIS 231A Advanced Laboratory Projects in Word
CIS 245A Introduction to Microsoft Access I
CIS 246   Introduction to PowerPoint
CIS 231B Advanced Laboratory Projects in Outlook
CIS 245B Introduction to Microsoft Access II

BRIDGE

CIS 1 Introduction to Computer Information Systems
CIS 5 Introduction to Computer Science
CIS 6 Introduction to Computer Programming

HIGH SCHOOL

Berkeley High School

Oakland Technical High School

Skyline High School

Computer Science

Computer Information Systems

Promising Developments

CCPT Projects Applying the Model Curriculum

East Bay Career Pathways Consortia
    Peralta Community College District
    CIS 1 Intro to Comp Info Systems = BUS 115
    CIS 5 Intro to Computer Science = ITIS 110
    CIS 6 Intro to Computer Programming = ITIS 130

San Francisco Career Pathways Consortia
    CCSF CS Department
    CS 111A Intro to Programming = ITIS 130
    CCSF CNIT Department
    In Progress

Diablo Gateways to Innovation

College of the Canyons

Long Beach City College

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Discussion

Q & A/Discussion

- As ICT educators, how can you support CCPT projects in your regions?

- What unidentified opportunities can you share with us to continue to build upon this work?

closing

Thank you!

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