CSin3:

A three-year bachelor's degree program in Computer Science

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HARTNELL COLLEGE

California State University
MONTEREY BAY
Extraordinary Opportunity

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HARTNELLCOLLEGE

16,000 students annually (unduplicated headcount)

In 2015-16, over 700 "Dreamer" students enrolled (291 enrolled in 2010-11)

56% first generation students (5th highest of 113 California community colleges)

85% receive financial aid

68% of students are Latino/Hispanic

About 90% of all students take at least one remedial course in English or math

About 12% of adults in District have a bachelor's degree or higher

39% of adults over 25 years old do not have a high school diploma

Only 6% of adults in the District have a bachelor's degree or higher

Part of the CSU system that serves 400,000 students

Undergraduate enrollment: 7,000

Computer science approximately 3% of total

37% Hispanic, 35% white, 7% African American, 7% multiracial

55% first generation

35% low income

62% women

33% of students from three-county service area

Cal State Monterey Bay

California State University
MONTEREY BAY
Extraordinary Opportunity

What challenges does CSin3 address?

Computer Science Demand Challenge

- Not enough qualified CS graduates
- U.S. colleges and universities are expected to produce less than 50% of the needed graduates in CS

Higher Education Challenges

- In past six years, CSUs turned away ~140K students
- CC->CSU 6-year graduation rate is <20%
- Average student loan debt for 2014 CSU graduate: $18K

Tech Workforce Diversity Challenge

~60% White Americans

~15% Women

~4% Hispanic Americans
(greater than 35% of CA population)

~2% African Americans

CSin3 from 30,000 feet

All students are pursuing a **Bachelor's Degree** in Computer Science

Partnership between **community college (Hartnell)** and **state university (CSUMB)**

Cohort-based

Accelerated - completion in 33 months

Significant support and engagement **beyond coursework**

Students supported by scholarships

Mission

A CSin3 student who embraces high expectations, cultivates curiosity, maintains a positive attitude, has a tenacious work ethic, and commits to the cohort learning community, upon graduation, will be well-prepared to compete with graduates from any top 10 computer science program for opportunities in the industry or academia.

Maria Rivera

2016 Graduate

Born in Mexico; parents moved to USA to work in fields in Salinas; 6 siblings

First generation to go to college

Never heard of CS prior to info session in January of her high school senior year

CSin3 from 2013-2016

Interned at Salesforce summer 2015; now full-time employee

CSin3 Demographics

in categories traditionally underrepresented in CS

Of the 123 students served/being served in 4 cohorts...

URM Total - 86%

Hispanic - 81%

First Generation College - 71%

Female - 43%

What does a CSin3 student encounter upon being accepted into the program in February?

1 A **small team of faculty and staff** becomes her primary point of contact for all things college.
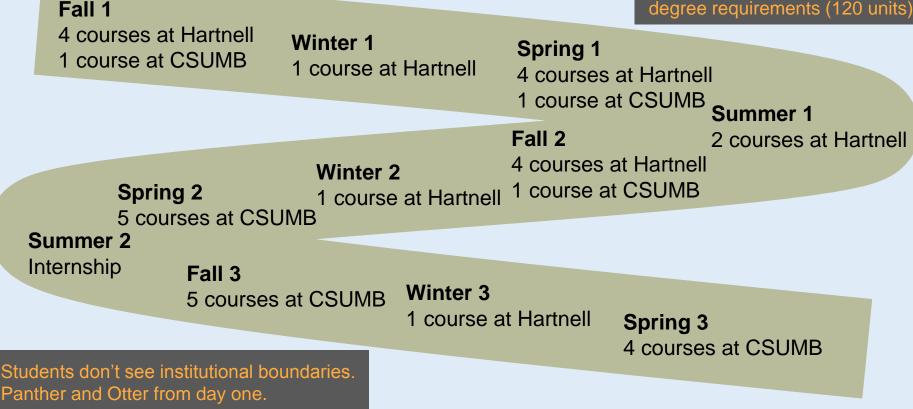
2 A **cohort of ~30 additional students** become her supportive learning community for the next 36 months.

3 **Growth mindset, grit**, general college readiness, Math and CS are emphasized/practiced during math intensive and summer bridge.

Nuts & Bolts View of 3-year Pathway

Pathway meets all bachelor's degree requirements (120 units)

Fall 1
4 courses at Hartnell
1 course at CSUMB

Winter 1
1 course at Hartnell

Spring 1
4 courses at Hartnell
1 course at CSUMB

Summer 1
2 courses at Hartnell

Fall 2
4 courses at Hartnell
1 course at CSUMB

Winter 2
1 course at Hartnell

Spring 2
5 courses at CSUMB

Summer 2
Internship

Fall 3
5 courses at CSUMB

Winter 3
1 course at Hartnell

Spring 3
4 courses at CSUMB

Students don't see institutional boundaries.
Panther and Otter from day one.

Support Team Structure

Small faculty/staff support team consists of…

Faculty leadership (one faculty lead from each institution)	- Interface/interact with cohorts on a daily basis - Lead career and educational support services: - Plan and implement pathway
Program coordinator	Supports and interfaces across institutional processes so students do not worry about registration, transfer, and cross enrollment
Education coordinator	Coordinates and implements outside of classroom educational support and enrichment activities

Student Engagement Strategies

Pre-college Prep

February - May all students participate in *Math Intensive* using Khan Academy and Saturday workshops

Summer Bridge

A weeklong "bootcamp" to officially launch the cohort

Friday Enrichment Workshops

Cohorts meet 2-3 hours every Friday for grade-level appropriate enrichment (Begins with getting acclimated to college and study skills, moves to internship prep, finishes with job searching)

Organized Study Time

1-2 hours per day of designated, required study time and space, which includes Peer Led Team Learning program

Industry Involvement

Industry organizations and professionals engage with students from year one

Results after 3.5 years

Graduation

22 out of 32 cohort 1 students in May 2016

(2 more from cohort 1 are expected to graduate in Dec 2016)

Jobs

16 out of 22 graduates had job offers at graduation

(2 more since)

Transfer

28 out of 32 students in each of the first two cohorts transferred from Hartnell to CSUMB

Biggest Challenges

Institutionalization of program procedures across institutions

Consistently cultivating a strong **cohort culture**

Expanding to **serve more students** (classroom capacities and assignments, faculty)

Lessons Learned (so far)

1. Still learning…
   (Change is an iterative process)

2. Impact of program is orders of magnitude greater with each new cohort

3. Importance of transitioning to a support team structure that does not depend on individuals

Questions

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http://csin3.hartnell.edu

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