



ENGINEERING & COMPUTER SCIENCE (ECS) SCHOLARS PROGRAM

***HIGH IMPACT PRACTICES (HIP) DURING FIRST YEAR IN
COLLEGE HELPING RETENTION***

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OUTLINE OF THE TALK

- ❑ ***The Problem* and the chatter about *The Problem***
- ❑ **Cal State Fullerton and the College of ECS**
 - ❖ **Who are we?**
 - ❖ **Unique challenges**
- ❑ **Serendipity strikes- A title V grant and a national recognition**
- ❑ **ECS Scholars program and freshmen retention**
- ❑ **Data-driven approach and encouraging results**
- ❑ **Sustaining retention efforts**
- ❑ **Several small steps- one big impact**

CALIFORNIA STATE UNIVERSITY, FULLERTON

California State University, Fullerton (CSUF), located 25 miles southeast of Los Angeles in Orange County, is among the largest universities in the nation with a fall 2012 enrollment of 37,677 students.

CSUF ranks first in California and fourth in the nation in bachelor's degrees awarded to Hispanics⁸ and is ranked ninth nationally in the number of baccalaureate degrees awarded to minority students (*Diverse Issues in Higher Education*, 2011).

There is no ethnic majority among its students; 32% of students identify as Hispanic, and more than half come from families in which neither parent graduated from college.



GETTING TO KNOW ECS @ CSUF

Undergraduate Programs

Civil Engineering
Computer Engineering
Electrical Engineering
Mechanical Engineering
Computer Science

Graduate Programs

Civil Engineering
Computer Engineering (MS and BS/MS programs)
Electrical Engineering
Environmental Engineering
Mechanical Engineering
Computer Science
Software Engineering

<u>Fall 2011 data</u>	Dean's List	Academic Probation
All University	13.6%	7.6%
STEM	9.1%	10.0%
ECS (5.4% of total student population)	9.0%	16.0%



THE NATIONAL SCIENCE BOARD (2004)

“...a troubling decline in the number of U.S. citizens who are training to become scientists and engineers, whereas the number of jobs requiring science and engineering...training continues to grow...”

Six Year Graduation Rate of Different Groups

Asian Americans	67%
Caucasians	60%
Hispanics	44%
Native Americans	39%
African Americans	38%
Females	61%

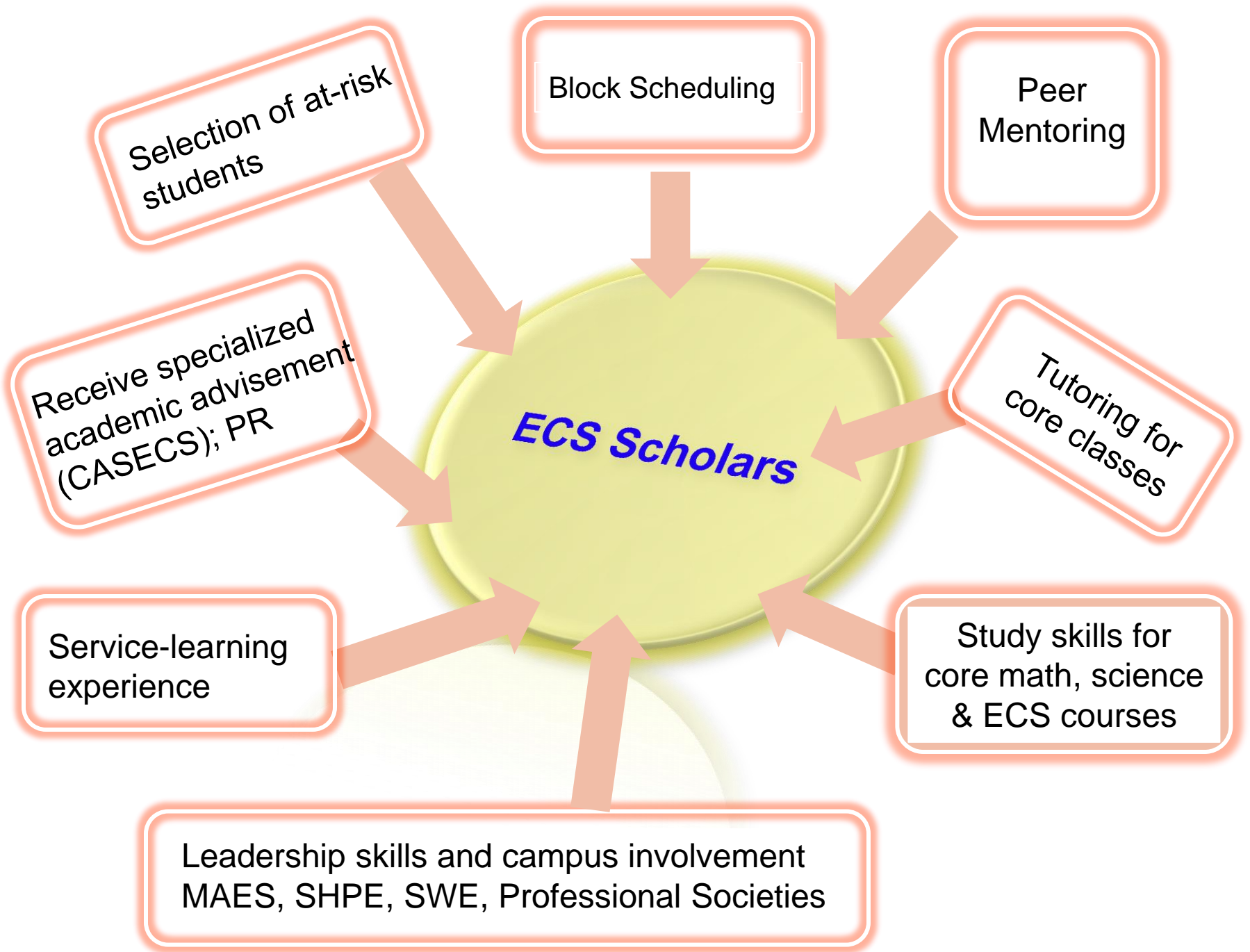


LATINO UNDERGRADUATE POPULATION IN ECS

YEAR	TOTAL HEAD COUNT	% OF TOTAL
Fall 2010	475	31.6
Fall 2011	535	32.6
Fall 2012	670	33.2
Fall 2013	A whole lot more...	AY Data in progress.

ECS Mantra

- ❖ **If a student is good enough to secure admission, he/she is good enough to graduate.**
- ❖ **It is the responsibility of the program to empower students so that they will have no excuse not to graduate with a degree in Engineering or Computer Science.**



CONCLUSIONS-1

BEFORE DEPLOYING THE RETENTION STRATEGIES OUTLINED IN THIS PAPER

One-year retention rate in Engineering & Comp. Sci.

27% Fall 2007

Two-year retention rate in Engineering & Comp. Sci.

34% Fall 2007

AFTER DEPLOYING THE RETENTION STRATEGIES OUTLINED IN THIS PAPER

2010 FTF- 3-year RR in ECS **42.8%**

Fall 2011- 2-year RR in ECS **53%**

Fall 2012- 1-year RR in ECS **74%**

CONCLUSIONS-2

CLOSING THE GAP

RETENTION OF LATINO STUDENTS

2010 FTF- 3-year RR
in ECS **43.9%**

Fall 2011- 2-year RR
in ECS **52.3%**

Fall 2012- 1-year RR in
ECS **73%**

AFTER DEPLOYING THE
RETENTION STRATEGIES
OUTLINED IN THIS PAPER

GENERAL POPULATION

2010 FTF- 3-year RR in
ECS **42.8%**

Fall 2011- 2-year RR in
ECS **52.9%**

Fall 2012- 1-year RR in
ECS **74%**

IMPROVING ECS RETENTION IN THE FIRST YEAR

TITLE V GRANT

FALL 2007

[ECS Scholars Program](#)



Title V

Title V Retention Programs, the University Learning Center (ULC), the Center for Academic Support in Engineering and Computer Science (CASECS) and the Freshman Programs.

EXCELENCIA IN EDUCATION WAL-MART SEMILLAS GRANT

Scaled Down Integration of Services



ASPIRATIONS: 2ND YEAR AND BEYOND



Cohort year	Total Head Count of Freshmen	Persistent to 2nd year	Persistent to 3rd year	Persistent to 4th year	Grad in 4 years	Enter 5th year	Grad in 5 years	Enter 6th year	Grad in 6 years	> 6 years to grad
		85%	70%	65%	35%	30%	50%	60%	60%	5%
2013	550	468	385	358	193	165	275	330	330	28
2014	600	510	420	390	210	180	300	360	360	30
2015	600	510	420	390	210	180	300	360	360	30
2016	650	553	455	423	228	195	325	390	390	33
2017	650	553	455	423	228	195	325	390	390	33



Questions?