

# ETIC Retention Task Force

Recommendations

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# Task Force Roster

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# Definitions

- **First-time freshmen** are students that entered in the fall or the immediately previous summer AND took 12 or more units in their first fall term AND entered with less than 12 credits transferred from another college (not counting any credits earned while in high school) or entered with 12 or more credits but graduated from high school the previous spring AND declared an ETIC-supported major during or before their first fall term.
- **Transfer students** are students that entered in the fall or the immediately previous summer after transferring from any college or university with junior standing (90-134 credits) AND enrolled with 12 or more credits in during their first fall term AND declared an ETIC-supported major during or before their first fall term.
- **Freshmen retention** is calculated as the percentage of first-time freshmen who remain in an ETIC-supported program the following fall.
- **Transfer retention** is calculated as the percentage of transfer students who remain in an ETIC-supported program the following fall.
- **Six-year graduation rate** is calculated as the percentage of students who started ETIC-supported program six years earlier as first-time freshmen who have completed bachelor's degrees.



# Categories of Interventions Considered

- HS-University Bridge Programs
- Minority Retention Programs
- Freshman/Sophomore Programs
- CC-University Transition Programs
- Community-building Programs
- Experiential Programs
- Remedial Educational Programs
- Faculty Strategies



# Categories of our Recommendations

- Community Building Programs
- Project Based Learning



# Community Building Programs

- Assigning students to teams to assist in the development of a sense of community among students.
- Social and other opportunities to meet other students, faculty and staff.
- Encouraging students to join student organizations.
- Providing access to student lounges, etc.
- Providing mentoring by students of similar age but somewhat great experience, often referred to as “near-peer mentoring.”

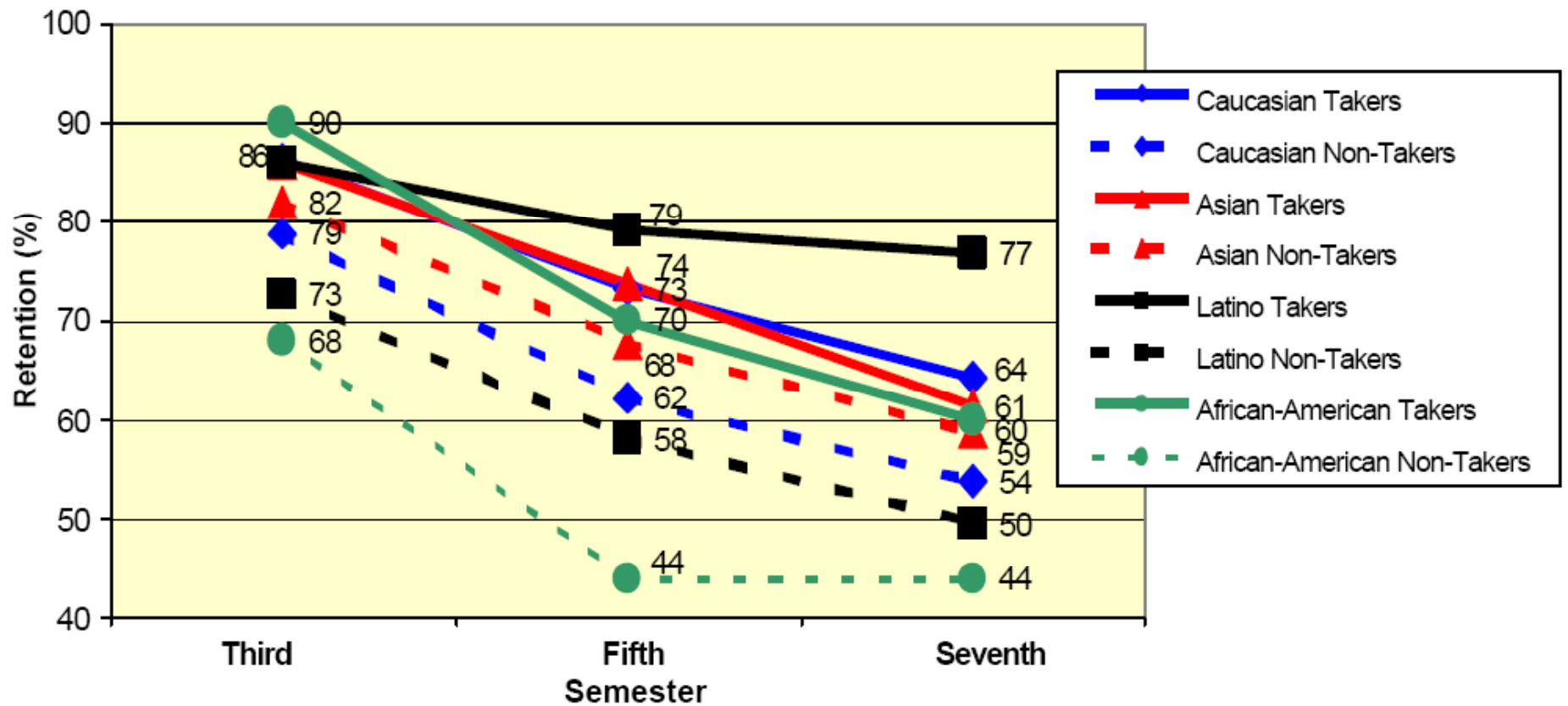


# Project Based Learning

- Teams of students
- Hands-on
- Project(s) are a major part of course
- Case study: University of Colorado, Boulder
  - Reported by Carlson and Sullivan\*
  - Up to five members per team
  - Projects vary, e.g. assistive technology, low-tech for developing countries
  - Strong improvements in retention across diverse segments

\* Exploiting Design to Inspire Interest in Engineering Across the K-16 Engineering Curriculum, Lawrence E. Carlson and Jacquelyn F. Sullivan, The International Journal of Engineering Education, Volume 20, Number 3, 2004

# Retention seen at Univ. of Colorado





# Recommendation 1

- Intro engineering and computer science courses should be more project- and team-based.
- Goals should be to combine
  - Teaching engineering processes
  - Establishing connections to real-world challenges
  - Giving students a sense of community
- Whenever possible
  - course sections should be small (20 or 30 students rather than 200)
  - room, equipment, and materials should support project development
- Teamwork should be emphasized, team members should be assigned by instructor



# Additional Recommendations

2. Start building community for incoming students before classes start
  - Connections to peers, older students, faculty and staff
  - Opportunity to explore student organizations
  - Engage in community building exercises
3. Grow size and diversity of student organizations that connect academic engagement with the rewards of engineering careers
  - May include projects or competitions
  - Consider incentives and resources for student organizations



# Next Steps

- Create and offer faculty workshop
  - Industry Affairs department will organize first workshops with help from Retention Task Force and ETIC campuses
- Engage recognized experts
- Inform and engage faculty in best practices
- Leadership should encourage faculty to
  - Participate
  - Implement recommendations
- As budgets allow, provide
  - Release time or summer salary for designing course enhancements

# Draft Schedule

		2009			2010	
	Oct	Nov	Dec	Jan	Feb	Mar
Approve budget, identify funds	X					
Survey faculty		X				
Identify speaker candidates		X				
Talk to candidates about content		X				
Develop draft agenda		X				
Select and recruit speakers			X			
Finalize agenda				X		
Publicize workshop, open registration				X		
Close registration					X	
Hold first workshop						X

# Draft Workshop Budget

(Covered by OUS Industry Affairs)

	ETIC Retention Improvement Professional Development Budget					
	Low Budget			High Budget		
	Cost	Quantity	Subtotal	Cost	Quantity	Subtotal
<b>First Workshop</b>						
Speakers Stipend	500	2	1,000	1,000	3	3,000
Speakers Travel	800	2	1,600	800	3	2,400
Facility	0	1	-	600	1	600
Food	12	40	472	12	90	1,062
Meeting Coordinator	0	1	-	2,000	1	2,000
A/V, miscellaneous	200	1	200	500	1	500
Subtotal			3,272			9,562
<b>Other Expenses</b>						
			-			-
			-			-
Subtotal			-			-
<b>Total</b>			<u>3,272</u>			<u>9,562</u>