Economic projections point to a need for approximately 1 million more STEM professionals than the U.S. will produce at the current rate over the next decade…

- President's Council of Advisors on Science and Technology, 2013
STEM Disciplines

BIOLOGY
CHEMISTRY
EARTH SCIENCE
NATURAL RESOURCES
PHYSICS/ENGINEERING

+ COMPUTER SCIENCE

MATHEMATICS
STEM Pathways

- Enrollment
- Degrees Conferred
- Transfer to CSUS and UC Davis
- Support Programs
STEM Enrollment
1st Time, New Students, Fall 2016

- **ARC-STEM**
- **All ARC**

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>ARC-STEM</th>
<th>All ARC</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Amer.</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Asian</td>
<td>11%</td>
<td>7%</td>
</tr>
<tr>
<td>Filipino</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Hisp./Latino</td>
<td>28%</td>
<td>29%</td>
</tr>
<tr>
<td>Multi-Race</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Native Amer.</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Unkn.</td>
<td>0%</td>
<td>13%</td>
</tr>
<tr>
<td>White</td>
<td>41%</td>
<td>35%</td>
</tr>
</tbody>
</table>
**STEM Enrollment**

*1st Time, New Students, Fall 2016*

- **Female**
  - ARC-STEM: 43.4%
  - All ARC: 35.8%

- **Male**
  - ARC-STEM: 54.1%
  - All ARC: 62.4%

- **Unknown**
  - ARC-STEM: 2.5%
  - All ARC: 1.9%
STEM Enrollment Trend
All 1st Time, New STEM Students, Fall 2014-16

- Fall 2014: 1,945
- Fall 2015: 2,153
- Fall 2016: 2,309
STEM Enrollment Trend

All 1st Time, New STEM Students by Disproportionately Impacted Groups

- African American
- Hispanic/Latino
- Native American

<table>
<thead>
<tr>
<th>Year</th>
<th>African American</th>
<th>Hispanic/Latino</th>
<th>Native American</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2014</td>
<td>164</td>
<td>527</td>
<td>14</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>184</td>
<td>603</td>
<td>9</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>192</td>
<td>647</td>
<td>15</td>
</tr>
</tbody>
</table>
STEM Enrollment Trend
All 1st Time, New STEM Students by Gender

- Female
- Male
- Unknown

<table>
<thead>
<tr>
<th>Year</th>
<th>Female</th>
<th>Male</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2014</td>
<td>926</td>
<td>977</td>
<td>42</td>
</tr>
<tr>
<td>Fall 2015</td>
<td>1031</td>
<td>1071</td>
<td>51</td>
</tr>
<tr>
<td>Fall 2016</td>
<td>1003</td>
<td>1249</td>
<td>57</td>
</tr>
</tbody>
</table>
STEM Degrees Conferred
Percent of All STEM Degrees

African Amer.  Hisp./Latino  Native Amer.
All Deg. Conf.  Male  Female

- 2006-07
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2007-08
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2008-09
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2009-10
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2010-11
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2011-12
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2012-13
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2013-14
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2014-15
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%

- 2015-16
  - 5.0%
  - 10.3%
  - 4.5%
  - 15.9%
## Junior Year Persistence

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ARC Transfer (1-Yr at CSUS)</strong></td>
<td>95%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Los Rios Transfer (1-Yr at CSUS)</strong></td>
<td>91%</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td><strong>CSUS Native Students</strong></td>
<td>96%</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>
STEM Students - Transfer Trend CSUS

Graduation - Los Rios Transfer Students (4 yrs at CSUS) vs CSUS Native Students (6 yrs at CSUS)

<table>
<thead>
<tr>
<th>Year</th>
<th>ARC</th>
<th>Los Rios</th>
<th>CSUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>65%</td>
<td>68%</td>
<td>43%</td>
</tr>
<tr>
<td>2015</td>
<td>61%</td>
<td>59%</td>
<td>46%</td>
</tr>
<tr>
<td>2016</td>
<td>66%</td>
<td>66%</td>
<td></td>
</tr>
</tbody>
</table>
Transfers to UCD – 4 Year Trend

90% of ARC students earn a STEM degree from UC Davis within 4 years of transferring.
The average GPA is above 3.0 and increasing
A consistent shortening of the average time-to-graduation at UCD

"The College of Biological Sciences is pleased to accept transfer students from American River College. The average first quarter GPA for ARC transfers in 2015 was 3.34, so we find the students to be well qualified for our programs. Our 2016 Excellence in STEM award for transfer students was given to former ARC student Jennifer Diamond based on her excellent academic record on campus."

- Susan L. Keen, Ph.D. Assoc. Dean for Undergrad. Acad. Programs College of Biol. Sciences UC, Davis
Support Programs
Student Success Center (SSC)

- Serves 300+ student per semester

- Provides individualized instruction in reading and study strategies.

- Habits of Mind and Reading Apprenticeship are embedded in the SSC curriculum

- Short term goal: Success in their current science course

- Long term goal: Success in their academic life and in their career choice

- +20% higher success rate upon completion of SSC program

Testimonial: Jose Idrovo
Federally-funded to serve 120 students

Participants: first-generation, low-income and/or a student with disabilities

Currently serving 140 students (waitlist of 30+)

TRIO SSS STEM is a home away from home
  • We learn about his/her academic and personal challenges
  • Develop success plan for transferring
  • Prepare for future obstacles
  • Students obtain services specific to their academic level (number of units), major, and goals
Support Programs
MESA

- A learning community for students pursuing a career in the fields of Mathematics, Science and Engineering

Fariba Kianmajd
UCLA Grad
Applying to Dental School

Qudsia Wahab
UC Berkeley Grad
Civil and Environmental Engineering

Daniel
Studying Chemical Engineering at UCD

Pablo Garcia
Lives in Lyon, France, PhD in Geology