Women in CECS

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Executive Director,
Center for Initiatives in STEM
Increasing Access and Graduation for Women

- Women’s Mentoring Network
- Center for Inclusive Computing
- Women’s Programs Coordinator
GEMS
(Girls EXCELling in Math and Science)

• Peer-to-peer women’s mentoring program designed for EXCEL female freshmen
  • 96% of mentees felt getting to know female role models motivated them in their major
  • 97% believed GEMS provided opportunities for unique academic and social experiences

• In program’s first year, improved male/female STEM retention gap by more than 6% and continues to close
Retention and Graduation Data

Retention gap differential and graduation total for EXCEL males and females remaining in Engineering and Computer Science majors

<table>
<thead>
<tr>
<th>Year</th>
<th>Retention Gap</th>
<th>Total Graduation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First Year (%)</td>
<td>Female</td>
</tr>
<tr>
<td>Baseline</td>
<td>15%</td>
<td>%</td>
</tr>
<tr>
<td>2010-2011</td>
<td>9</td>
<td>83</td>
</tr>
<tr>
<td>2011-2012</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>2012-2013</td>
<td>+6</td>
<td>84</td>
</tr>
<tr>
<td>2013-2014</td>
<td>+2</td>
<td>68</td>
</tr>
<tr>
<td>2014-2015</td>
<td>6</td>
<td>64</td>
</tr>
<tr>
<td>2015-2016</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>2016-2017</td>
<td>+1</td>
<td>53*</td>
</tr>
<tr>
<td>2017-2018</td>
<td>6</td>
<td>N/A</td>
</tr>
<tr>
<td>2018-2019</td>
<td>+3</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Plusses (+) represent years where women have overcome a retention deficit.

*reflects five-year graduation rate
Women in Science & Engineering (WISE) Mentoring

- Professional-to-student mentoring program for EXCEL females created in fall 2011 to continue to address the gender retention gap

- Recruits sophomore to senior EXCEL female students to participate in 6-month mentoring program paired with female professional

- Of WISE participants completing the program (n=250), 90% majored and completed a degree in engineering and computer science
WISE Mentoring Partners

- In addition to mentoring, opportunities for students include internships, job shadowing and networking with women in their potential field.

- Since inception, program mentors have volunteered from **more than 50** companies and consulting firms:

  AdventHealth  
  Blue Origin  
  Cole Engineering  
  City of Casselberry  
  City of Winter Park  
  Collins Aerospace  
  Core and Main  
  Cubic Defense Systems  
  Design Interactive  
  Dignitas Technologies  
  Disney  
  Duke Energy  
  L3Harris  
  Leidos  
  Healthfirst Inc.  
  Horizon Civil  
  Irradiance Glass  
  JC Ventures  
  Johnson & Johnson  
  Kismett Technologies  
  Lockheed Martin  
  Lane Construction  
  Medical Research Group  
  Metters  
  Millennium Engineering and Integration Company  
  Mitre  
  NASA  
  National Center for Forensic Science  
  Northrup Grumman  
  NAWCTSD  
  Orlando Utilities Commission  
  PEOSTRI  
  Raytheon  
  SAIC  
  Siemens  
  SimIS  
  Smart Electric Power Alliance  
  Wharton-Smith Inc.
The WISE mentoring program changed my life...Because of my mentor’s guidance, I learned how to effectively talk to recruiters at job fairs and how to have a successful interview. I applied for 3 different internships and received offers from all 3!

As I embark into the next phase of my life as a graduate, I have to thank my WISE mentors for pushing me and developing me into the person I am today. Without the guidance and opportunities they provided for me, my horizons would be a lot narrower.

Being a part of this program was an absolutely amazing experience. I learned a lot about myself and I was able to gain more knowledge and confidence that will benefit me in my future career.
From Our Mentors

The WISE Mentoring program with UCF has been fantastic. What a fun, structured approach to ensuring both mentor and mentee goals are met! The pairing process was customized for each mentee and the full profiles were worth the effort! I couldn't have asked for a better mentee and I'm beyond proud of all she was able to accomplish so quickly in our time together.

WISE is very fulfilling for both the mentor and mentee as we both promote women in STEM. Working with a mentee helps me appreciate my job and the career path taken. Sharing the career journey makes me appreciate the highs and the lows and share the lessons learned.

What a refreshing program! Going in I had no idea it would be so rewarding on so many levels. Great program and wonderful execution.
## Scaling Our Impact

Expand the impact of mentoring programs for women and underrepresented students

<table>
<thead>
<tr>
<th></th>
<th>Female STEM First-Year Retention (%)</th>
<th>Female STEM Graduation (%)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>EXCEL</td>
<td>Comparison</td>
</tr>
<tr>
<td>2011-2012</td>
<td>77.3</td>
<td>58.7</td>
</tr>
<tr>
<td>2012-2013</td>
<td>78.9</td>
<td>59.5</td>
</tr>
<tr>
<td>2013-2014</td>
<td>70.5</td>
<td>57.6</td>
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<tr>
<td>2014-2015</td>
<td>73.3</td>
<td>59.6</td>
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<td>2015-2016</td>
<td>79.1</td>
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<td>2016-2017</td>
<td>81.7</td>
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<td>2017-2018</td>
<td>71</td>
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<tr>
<td>2018-2019</td>
<td>81.7</td>
<td>75.1</td>
</tr>
<tr>
<td>2019-2020</td>
<td>83</td>
<td>76</td>
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</table>

**Female 1st Year Retention and 6-Year Graduation Comparison of EXCEL and matched STEM Control Group**
Center for Inclusive Computing

Curriculum
• COP 2500 redesign
• Consistency in entry sequence
• CS+X minor

Women’s Coordinator
• GLAMPing
• Multi-year plan for advancing the mission
• Leverage for continued support
The Future

SIP FUNDING - EXCEL TRANSFERS

WOMEN’S COORDINATOR 2 YRS SUPPORT
POTENTIAL ADDITIONAL CIC FUNDING
Discussion