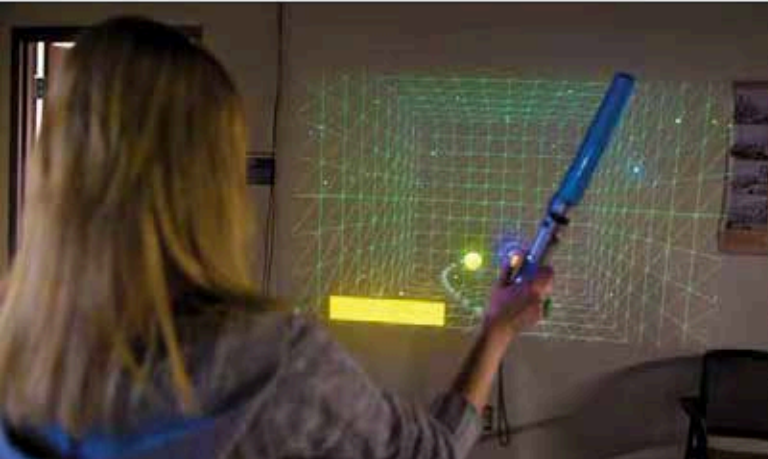


Recruiting and Retaining All Students in STEM:

EXCEL/COMPASS = STEM Success



Why Would I Want to Choose STEM?

STEM = SCIENCE + TECHNOLOGY + ENGINEERING + MATHEMATICS

- In five years, there will be a shortage of 2,000,000 engineers and scientists in the U.S.
- The CEOs of companies like Google, Microsoft, Verizon, AT&T, and Amazon have had STEM bachelor's degrees
- Graduates with bachelor's degrees in STEM disciplines earn more than graduates with Ph.D.s in non-STEM disciplines

The EXCEL Program

- **Funded by the National Science Foundation (NSF) at the level of \$1.8M over the period of 2006 to 2011**
 - **Supported by UCF and external partners: Duke Energy, Northrop Grumman and Leidos**
- **Program Goal: Increase the success of STEM students in their first two years of college**
- **Objective 1:** Recruit 300 students per year into the program
- **Objective 2:** Offer these students enhanced educational experiences that improves their success in college



Convincing Outstanding Math Potential Admits to Succeed in STEM (COMPASS) is funded by the **National Science Foundation (NSF)** at the level of \$1.8M over the period of 2012 to 2019

Goal: Increase the number of UCF **STEM degree recipients**

Objectives

- 1: **Recruit** 100 undecided students
- 2: **Capture** 75% (declare a STEM major)
- 3: **Retain** 65% to earn a STEM degree
- 4: **Research** Career Readiness and Career Interest

The COMPASS Journey: You Choose

COMPASS will guide you to ***determine, clarify, or confirm*** your major and career options. COMPASS is ***tailored to fit your needs*** by offering two pathways to success in STEM.

Pathway 1: Undecided Students

- Students who are undecided on their major upon applying to UCF or at the time of orientation will be enrolled in Career Planning: STEM Explorations.

Pathway 2: Recently declared STEM

- Students who may have been unsure of their major upon applying to UCF but recently declared a STEM major prior to orientation will be enrolled in the STEM Seminar.

Your Choices...

COMPASS members will learn about different career opportunities while making earlier decisions on their future careers and majors.

Pathway 1: Career Planning: STEM Explorations (MHS 2330) Hands-on exposure to science and engineering careers while gaining clarity on your own strengths and interests through facilitated self-discovery. The course takes students through the career decision making process exploring

Who am I?

Where am I Going?

How do I Get there?

Pathway 2: STEM Seminar courses (ISC 2054 & ISC 2055) concentrate less on determining a major and more on confirming a career choice and being successful in the chosen STEM major.

Receive tools for establishing a strong academic foundation

Introduction to the concept of undergraduate research experiences

In-depth exposure to STEM faculty, researchers, and labs

Immersion into the world of STEM.

There has never been any question you want to study a major within Science, Technology, Engineering, and Mathematics (STEM)

Students who *enjoy or are strong in math or science* and are *seeking confirmation and support* in their chosen STEM fields are a perfect fit

***EXCEL...
who should
apply?***

Who is Involved...

STEM Opportunities at UCF...

- Aerospace Engineering
- Actuarial Science
- Biology
- Biomedical Sciences
- Biotechnology
- Chemistry
- Civil Engineering
- Computer Engineering
- Computer Science
- Construction Engineering
- Electrical Engineering
- Environmental Engineering
- Forensic Science
- Industrial Engineering
- Information Technology
- Mathematics
- Mechanical Engineering
- Statistics
- Photonics
- Physics

*Who is
Involved...*

EXCEL & COMPASS People

4339 Students

25 Administrators

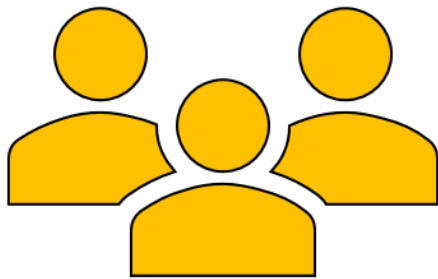
11 Offices

20 STEM Faculty to teach

120 Faculty research mentors



The Promise



Connect students, faculty and disciplines, through a

Learning Community

which ultimately leads to increased success of STEM students

Activities to Achieve Objectives

Activities
Recruit Students
Common course: Career Planning or STEM Seminar
Common Math Classes
Recitation Sessions
Graduate Student Mentors
Tutoring at the COMPASS/EXCEL Center
Tutoring at the NIKE Housing Facility
Housing at the NIKE Building
Advising
Sophomore Undergraduate Research Experiences
Social Activities

GEMS

Girls EXCELLING In Math and Science

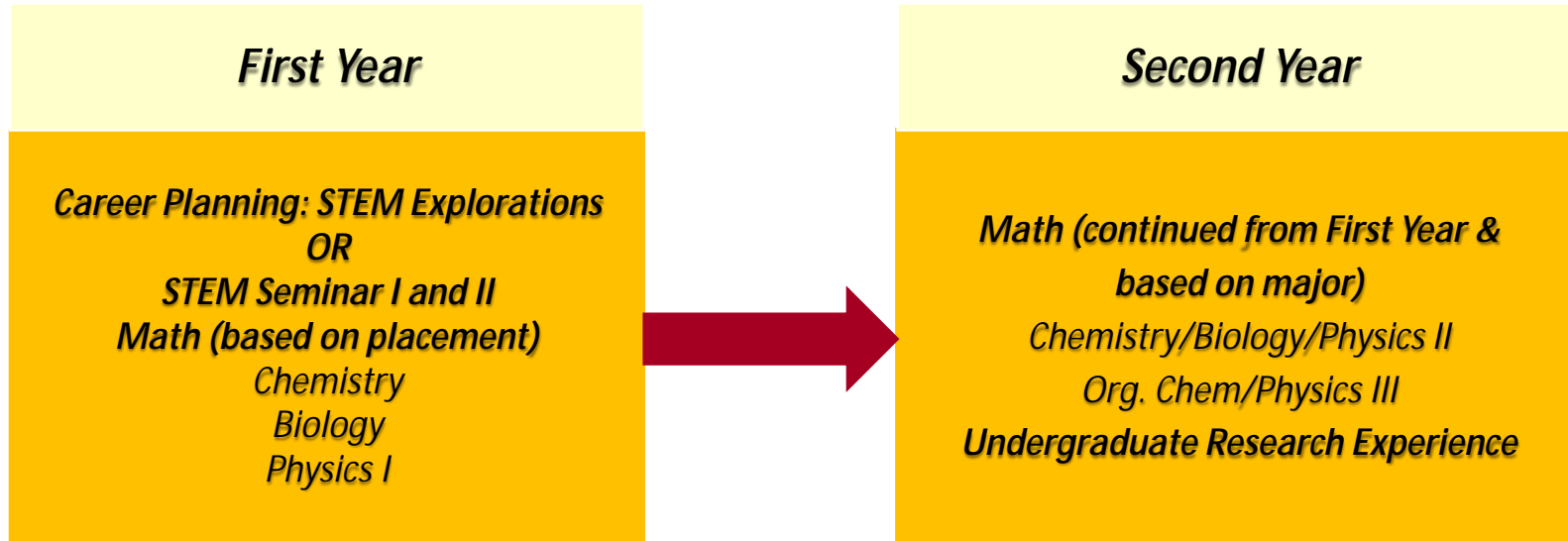
Decreased the gender gap in first-year retention rate in STEM from 15% to 1%

WISE
mentoring at UCF

Since 2011, paired over 200 undergraduate STEM women with industry professionals from more than 50+ organizations

The Curriculum

In preparation for your success and in addition to the Career Planning or Seminar Courses, program students are enrolled in a qualifying **math course** during the first semester.

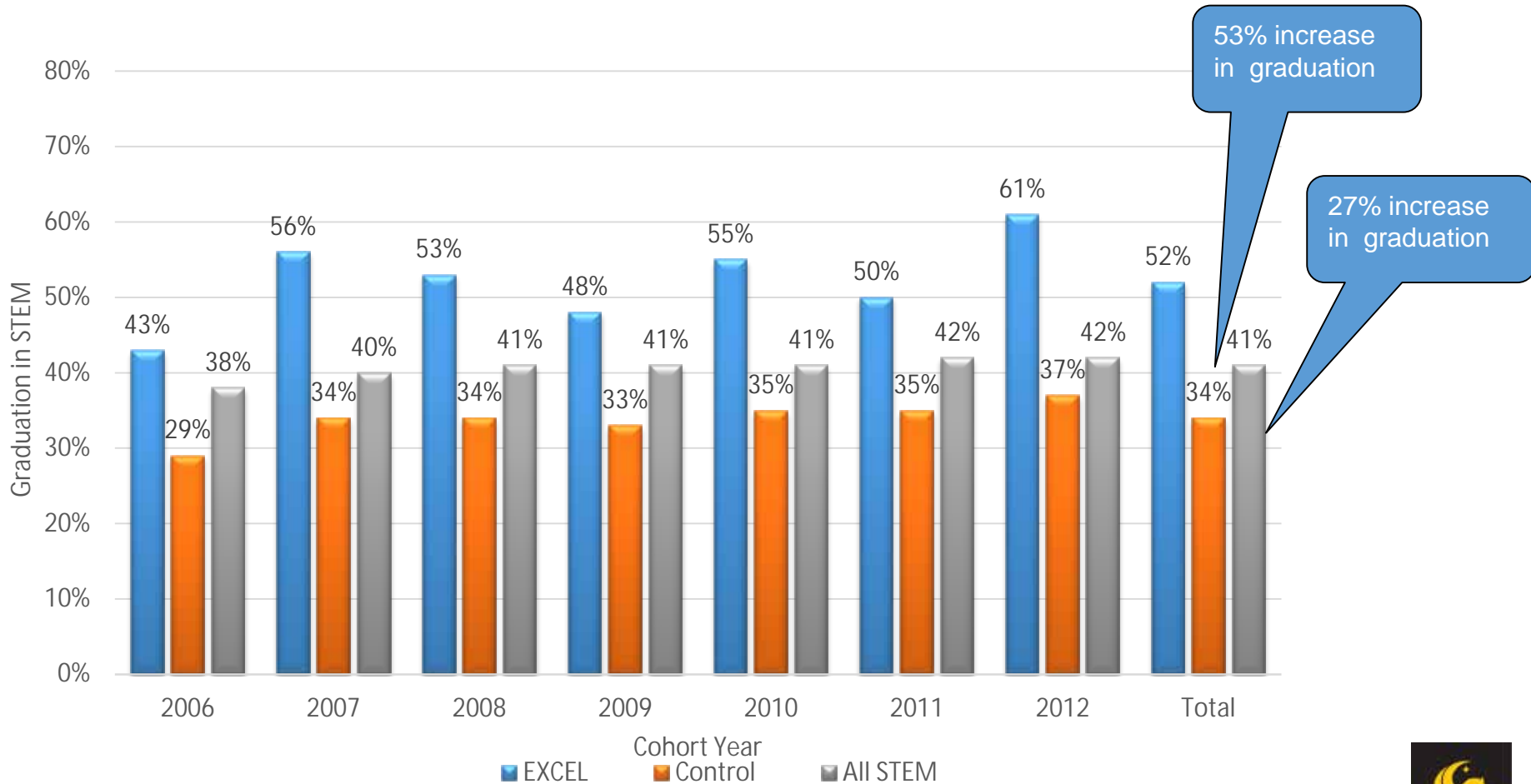


COMPASS has two tracks: Track I which starts with Career Planning: STEM Explorations, Track II which starts with STEM Seminar

Both programs have four math tracks: Track I which starts with College Algebra, Track II which starts with Pre-Calculus, Track III which starts with Calculus I, and Track IV which starts with Calculus II

The programs do not require students to take courses beyond what their major advises them to

The Success Story (Why EXCEL & COMPASS)



Enhancing Sophomore Experiences

Time Period of URE	Number of EXCEL Students Involved
Spring 08/Summer 08	Thirty Nine (39)
Spring 09/Summer 09	Fifty Four (54)
Spring 10/Summer10	Sixty Five (65)
Spring11/Summer11	Eighty Two (82)
Spring12/Summer12	Eighty (80)
Spring13/Summer13	Seventy Two (72)
Spring14/Summer14	Sixty Seven (67)
Spring15/Summer15	Seventy Two (72)
Spring16/Summer16	Seventy Six (76)
Spring17/Summer17	One Hundred Eight (108)

Who should apply?

A high school senior who:

- Interest in *STEM*
- Likes *math or science*
- *590 Math* SAT (ACT 24 Math)
- *Learning community*
- *Indecision about pursuing a STEM major* (COMPASS)
- *Learn more* about who am I, my interests and values, and get hands on experiences while *making a career decision* (COMPASS)
- Has been *admitted* to UCF

How do I apply?

*Online
Application*

*Visit our
Web-Site*

- www.COMPASS.ucf.edu
- www.EXCEL.ucf.edu

*E-Mail us if
you have
more
questions*

- COMPASS@ucf.edu
- EXCEL@ucf.edu

Things to know...

Now (High School)

- Take math in the senior year
- Math Placement Test is required

Then (College)

- STEM requires effort
- Hit the ground running
- Have a plan. Live the plan. Adapt the plan.

Contact

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