

UNIVERSITY OF CENTRAL FLORIDA



UCF

# EXCEL

**IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS**

ENROLLMENT IS LIMITED. Apply early at [excel.ucf.edu](https://excel.ucf.edu).

## A Message from the Program Director



### DEAR PROSPECTIVE STUDENT,

At UCF, ensuring that Science, Technology, Engineering and Mathematics (STEM) majors achieve success is a top priority. The fast-paced nature and technical curricula of the STEM majors are challenging but EXCEL, with its comprehensive and well-planned support structure, prepares students to succeed, starting with the most critical first two years of college.

The EXCEL program is structured to build strong math skills. Once you possess a strong mathematics background, science and engineering subjects are easier to master.

The program offers support and mentoring for all required courses common to engineering, science and math majors.

We want you to expect success. And we can help you along the way.

Sincerely,

**Melissa A. Dagley**  
Executive Director, Initiatives in STEM



# WHAT IS EXCEL?

**THE EXCEL PROGRAM** helps you understand mathematical and scientific concepts. An EXCEL advisor designs an academic plan for you and closely follows your progress. Graduate student mentors help you in math and science courses. One-hour seminars assist you in transitioning to the STEM college environment and introduce you to the concepts of research.

The program increases student achievements in first-year and second-year math and science courses, the cornerstone of success in STEM disciplines. EXCEL brings students together to learn and build connections among students and faculty.

During your second year, you have the opportunity to participate in an undergraduate research experience.

The first two years of college go by quickly. As a STEM major, EXCEL can help make those years successful.

### EXCEL GETS RESULTS

Since its inception in 2006, the EXCEL program has recruited more than 2,400 students. EXCEL has increased their success, defined by staying in a STEM major, by 42 percent compared to UCF STEM students who have not been part of the EXCEL program.

Every year (spring of a student's second year), more than 40 students participate in research experiences with a UCF STEM professor, becoming a part of the professor's research team and getting a taste of research.

Students who participate in second-year research experiences have an excellent chance of continuing their research in their third and fourth years, through established fellowship programs at UCF, such as Research and Mentoring Program (RAMP), McNair Scholars and Camp-Young Entrepreneur and Scholar (CAMP-YES).

# EXCEL IS FOR YOU IF YOU:

- Are admitted to UCF with the intent to major in Science, Technology, Engineering or Mathematics
- Have taken a minimum of Algebra II and Trigonometry or a minimum of Pre-calculus
- Scored at least a 610 Math SAT
- Want to make friends and connections with students in other STEM disciplines
- Enjoy study groups and structured programs
- Want to have a rewarding college experience that leads to a successful STEM career

*“EXCEL has been such a great experience for me because within this large school you have a community of support and a group of students who share common goals and interests.”*

**Kimberly Trimble**  
Biomedical Sciences

## EXCEL STARS



**ANTHONY SEABERT** was accepted into the Young Entrepreneur and Scholar (YES) program upon completion of his EXCEL undergraduate research experience and presented at the YES annual spring symposium his junior and senior years. Anthony completed both a B.S. in mechanical engineering and an M.S. in engineering management at UCF before going to work in launch operations at Firefly Aerospace.



**KEON VEREEN** took advantage of all EXCEL had to offer. After participating in the EXCEL undergraduate research experience, he was chosen as a McNair Scholar to continue his research work. Upon graduation with a B.S. in aerospace engineering he was awarded the RAMP Master's Fellowship. Keon began his next journey when he was awarded the National Science Foundation's Graduate Fellowship and moved to the University of Washington to pursue a Ph.D. in aerospace engineering.



**DANIELLA BADAL** graduated with a B.S. in biomedical sciences, but chose to do her EXCEL undergraduate research in engineering technology. She served EXCEL as a Girls EXCELLing in Math and Science (GEMS) mentor for two years, performed as an EXCEL Welcome Party team leader and assisted in the coordination of several EXCEL volunteer and social activities including serving as a judge for Science Olympiad. While completing her Doctor of Pharmacy at the University of Florida's pharmacy school at Lake Nona, Daniella received the Jerry Elaine Klimetz Memorial Scholarship for academic achievement and leadership.



**WHITNEY KEITH** won the prestigious Astronaut Scholarship, awarded only to a handful of exceptional students around the U.S., for the research work she conducted with the Mathematics Department. This scholarship is provided to students who exhibit motivation, imagination and exceptional performance in the science or engineering field of their major. Whitney served as a GEMS mentor her senior year. Upon completion of her B.S. in electrical engineering, Whitney went to work with the Ford Motor Company.

## WHY EXCEL?

- EXCEL students who are awarded housing contracts can apply to reside in the same block.
- Each student builds a carefully planned, co-developed educational schedule with their EXCEL academic advisor.
- EXCEL students interact with our community of undergraduate and graduate students, faculty and staff one-on-one or in small group settings.
- EXCEL students are guaranteed seats in first-year math classes to learn with people they know.
- EXCEL courses are taught by outstanding faculty.
- EXCEL helps second-year students get involved in research experiences.



# THE EXCEL CENTER

The EXCEL Center offers services and activities such as tutoring and advising. Free tutoring by graduate students is available in College Algebra, Pre-calculus, Calculus, Differential Equations, Biology, Chemistry and Physics. A computer lab and study area provide places for students to study and interact.

Both EXCEL and college advisors are available to all EXCEL students during advising days and by appointment.

*"After being a part of the program, I can say without hesitation that the EXCEL program was a catalyst toward my career aspirations. If you want to be a leader that tackles some of the challenges that we face in the 21st century, then the EXCEL program will offer you enormous resources toward your future endeavors."*

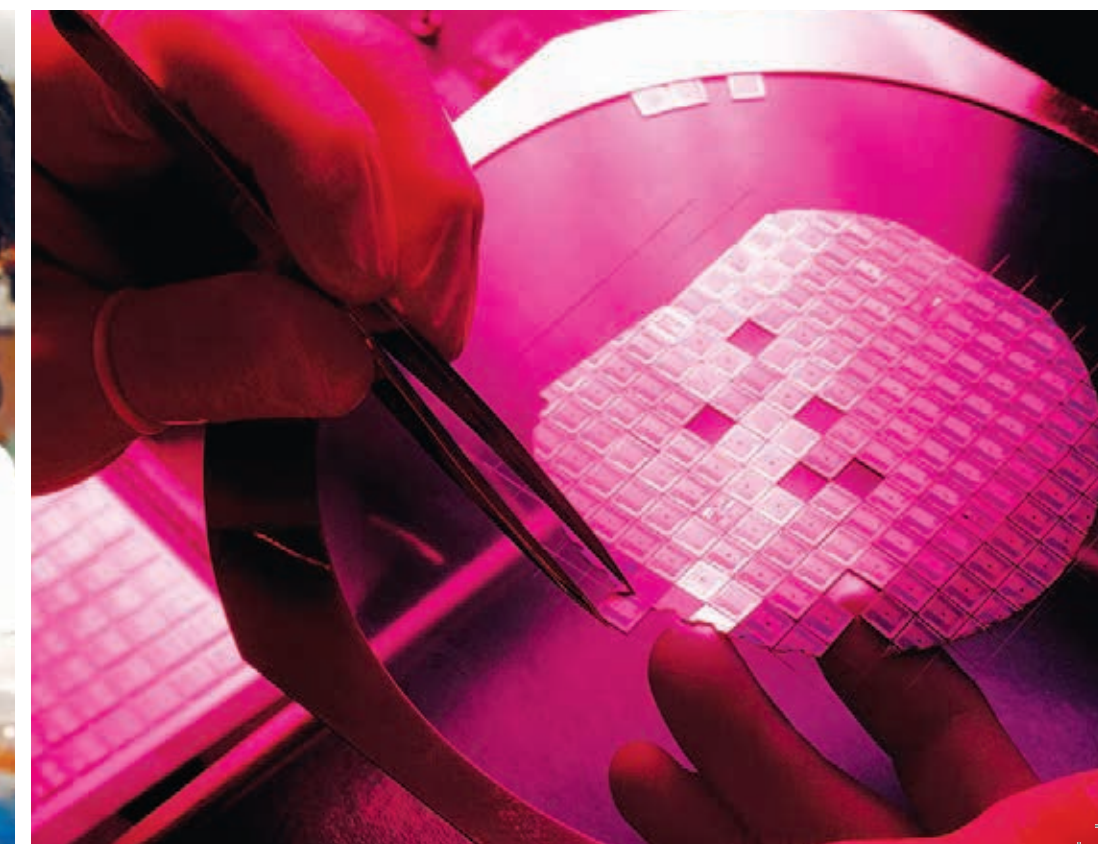
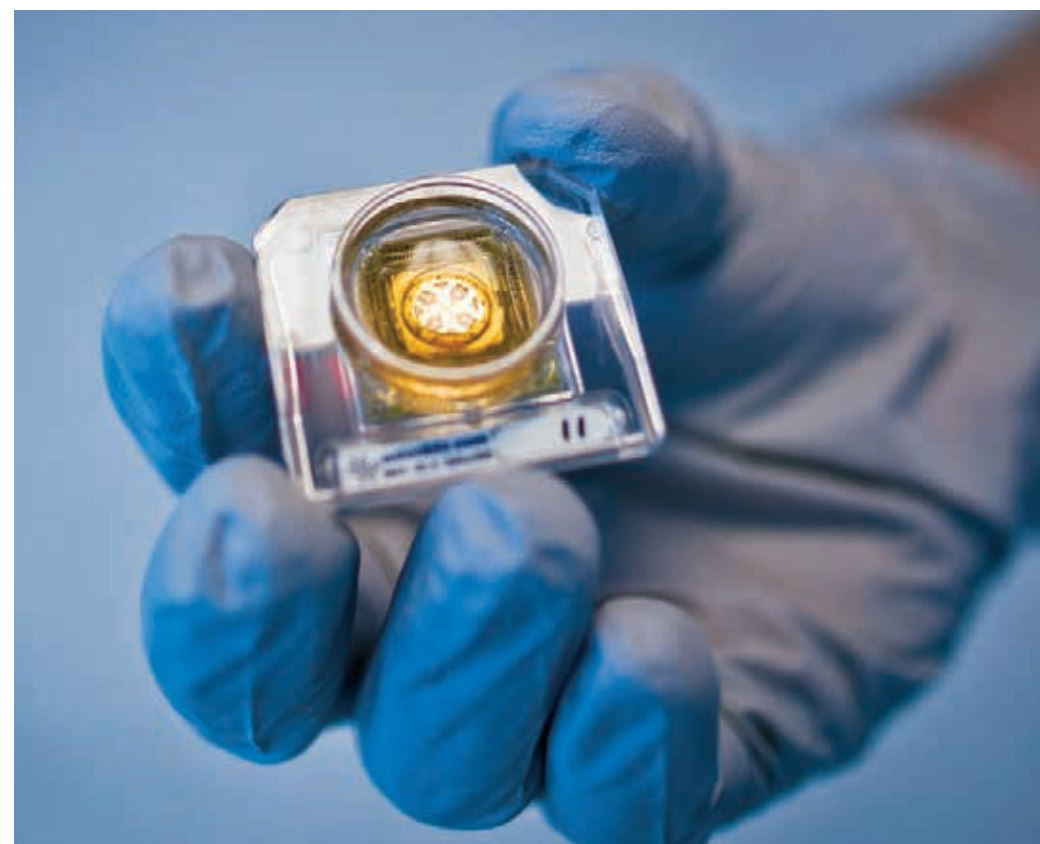
**Keon Vereen**  
Aerospace Engineering



## WHERE CAN I START A CAREER?

Through its carefully planned educational activities, EXCEL will prepare students for rewarding careers in any of the following disciplines:

**Aerospace Engineering, Biology, Biotechnology, Chemistry, Civil Engineering, Computer Engineering, Computer Science, Construction Engineering, Electrical Engineering, Environmental Engineering, Forensic Science, Industrial Engineering, Mechanical Engineering, Mathematics, Photonics, Physics and Statistics.**





## PATHWAYS TO STEM

### EXCEL FIRST YEAR

EXCEL first-year mathematics faculty determine a student's *Pathway of Study* based upon their math placement test results.

Students meet with an advisor at the beginning of the semester to ensure that they have the right mix of classes.

EXCEL students who take College Algebra, Pre-calculus, Calculus I and Calculus II classes participate in *unique recitation sessions*. These sessions enhance and reinforce students' understanding of math concepts.

EXCEL students are continuously mentored and are required early in each term to visit the EXCEL Center for tutoring and to meet with their graduate student mentor.

Special classes called *STEM Seminar I and II* are also taken. These courses encourage community building, and provide information and tools necessary for student transition and academic success. *Seminar I* introduces students to concepts aimed at helping them to be strong, competitive students in STEM disciplines. *Seminar II* focuses on exposing the EXCEL students to STEM faculty and researchers. These classes are offered only to EXCEL students.

## COURSES AND UNDERGRADUATE RESEARCH EXPERIENCES (URE)

### EXCEL SECOND YEAR

After completing required math and science classes during the first year, EXCEL students have the opportunity to continue with EXCEL math courses, through Calculus III, in their second year. Additionally, eligible (3.0 GPA) EXCEL students have the option of taking part in an undergraduate research experience. The goal of the undergraduate research experience is for students to see and experience research firsthand.

In the fall semester of the second year, EXCEL students pair with UCF STEM faculty mentors and participate in research preparatory workshops. In the spring, students and faculty team up according to their research interests.

More than 40 EXCEL sophomore students participate in the research of a UCF STEM professor every year.

EXCEL students involved in undergraduate research experiences are well prepared for future, paid research experiences at UCF.


## UNDERGRADUATE RESEARCH AND ENTREPRENEURSHIP EXPERIENCES

### EXCEL THIRD AND FOURTH YEARS

The EXCEL research experience prepares students for additional opportunities in their later college years.

Eligible EXCEL students have the opportunity to work with a UCF STEM professor or an industry mentor to better prepare them for graduate school or a career in industry.

Paid undergraduate experiences (research or entrepreneurship) establish learning communities, which offer enhanced educational experiences and connections with faculty, graduate students and industry professionals.



*"The EXCEL program provides an opportunity for freshman and upper-level research faculty to interact in a learning environment that fosters questions and inquiry. The students get to know faculty that they wouldn't otherwise see for two years, know a bit of what they do for research and how it will apply to their education."*

**Cherie Yestrebsky**  
Professor of Chemistry

*"EXCEL has been one of the greatest resources that I have had the privilege of using throughout my college experience. Not only did I meet a group of amazing, hard-working, goal-oriented friends, I was able to succeed in both of my math classes due in large part to the help of the graduate students and to the EXCEL teachers, who made it their goal that their students achieve academic success."*

**Ashleigh Guinn**  
Biomedical Sciences



*"Not only has the EXCEL program helped and motivated me to study engineering, but it has also helped me to connect with fellow classmates and teachers who have similar interests. These are the people who you want to be with throughout your college career."*

**Kenzo Mendoza**  
Electrical Engineering

*"EXCEL has offered me many opportunities. The one that I enjoyed the most is being able to apply what I've learned in class to the real world. From applications of Calculus I and the YES program, to being a part of the Machine Learning Lab, I have made great friends that share my passion for engineering."*

**Giselle Borrero**  
Computer Engineering

*"Being in EXCEL has opened a plethora of opportunities. Through this experience I have had access to various resources such as living with fellow students in my major, tutoring for my math and science courses, and a chance at undergraduate research."*

**Stacy Glass**  
Electrical Engineering

## WOMEN'S MENTORSHIP NETWORK

*"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 three different internships and received offers from all three."*

**Leah D'Agostini**  
Computer Science

To meet the goal of increasing underrepresented graduates in the STEM workforce, EXCEL established a women's mentorship network. This network provides for peer mentors in the first year and industry mentors in subsequent years. These relationships provide personal support early in the student's transition to the university, academic support in the chosen field, and career support through setting goals, defining a career path, and performing as a role model for the mentees.

### **GIRLS EXCELLING IN MATH AND SCIENCE (GEMS)**

First-year EXCEL students are assigned an upperclass GEMS mentor. These mentors are hand-picked from EXCEL alumni and trained by the EXCEL staff. Students receive communications during the summer before arriving at UCF as well as GEMS-sponsored industry and faculty networking events and socials throughout the first year of college.

### **WOMEN IN SCIENCE AND ENGINEERING (WISE) @ UCF**

Second and third-year EXCEL students have the opportunity to be paired with a STEM industry professional for a six-month mentoring program. In addition to meeting with the WISE mentees, the industry mentors provide access to industry partners for internships.



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**EXCEL Program**

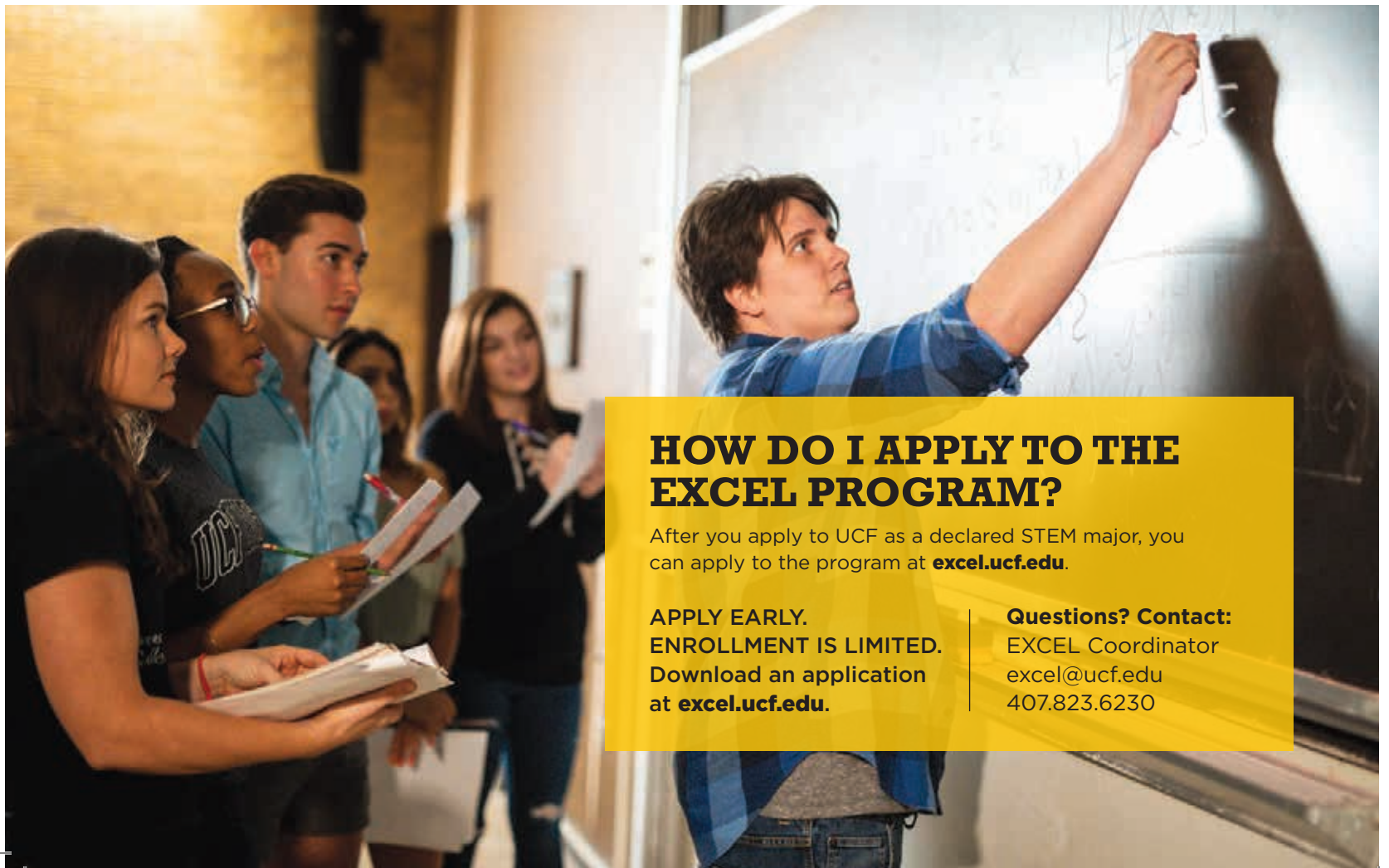
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EXCEL is directed by the Center for Initiatives in STEM and is a program in the Division of Teaching and Learning.

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## HOW DO I APPLY TO THE EXCEL PROGRAM?

After you apply to UCF as a declared STEM major, you can apply to the program at [excel.ucf.edu](https://excel.ucf.edu).

**APPLY EARLY.  
ENROLLMENT IS LIMITED.**  
Download an application  
at [excel.ucf.edu](https://excel.ucf.edu).

**Questions? Contact:**

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