College of Engineering and Computer Science (CECS) Virtual Graduate Open House: Accelerated BS-to-MS Edition

Thanks for joining!! We will begin soon
College of Engineering and Computer Science (CECS) Virtual Graduate Open House:

Accelerated BS-to-MS Edition
Accelerated BS-to-MS
(designed for current UCF undergraduates)

Dr. Ali P. Gordon (Ali.Gordon@ucf.edu),
Ms. Anna Canlon (Anna.Canlon@ucf.edu),
and Ms. Heather Houser (hstevens@ucf.edu)

http://cecs.ucf.edu/gradday
Outline

- What is the Accelerated BS-to-MS Program?
- CECS Graduate Programs
- Eligibility
- Application Process
- Next Steps and Funding
- Summary

CECS Grad Site
http://grad.cecs.ucf.edu
The University of Central Florida was founded in 1963 as Florida Technological University, with the mission of supporting the growing United States space program at nearby Kennedy Space Center and Cape Canaveral Air Force Station.

The motto, “Reach for the Stars,” represented the university’s promising aerospace education in engineering, electronics and other technological professions.
What is the Accelerated BS-to-MS Program?

Program Attributes/Benefit:

- Highly-qualified students in eligible majors can take graduate courses and apply toward both their BS and MS degrees.
- Provides students with the opportunity to earn their Master’s degree in less time after the completion of their bachelor’s.
- Early identification of areas of graduate study and research.
- Easier admission process and waived graduate application fee.
- Reduces the cost of earning a graduate degree.
- Bright Futures pays 75% of your graduate course tuition when you are an undergraduate student.
- Provides an opportunity to assess your skills in a graduate-level environment.
- Allows students to study in smaller class sizes.

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http://cecs.ucf.edu/gradday
Take-aways: (1) interest in the CECS BS-to-MS program is higher than it’s ever been, (2) students are applying and enrolling earlier than in prior years.
CECS Departments

- Civil, Environmental and Construction Engineering (CECE)
- Computer Science (CS)
- Electrical and Computer Engineering (ECE)
- Industrial Engineering and Management Systems (IEMS)
- Materials Science and Engineering (MSE)
- Mechanical and Aerospace Engineering (MAE)

www.cecs.ucf.edu
Graduate Program Types

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<th>Degree</th>
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<th>Non-Thesis</th>
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<tr>
<td>Certificate</td>
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</table>

Credit hour requirements for each degree:

- PhD: 72
- MS: 30
- Certificate: 9-15

Thesis: 24 hours + 6 hours of research

BS-to-MS (UCF students only):
- Transfer 12 hours of undergraduate courses towards MS degree
- 12 hours must be graduate courses taken as electives

BS Degree

12 hours of grad courses

12

128

128

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Integrating Graduating Courses

Allows high-achieving students to simultaneously earn both a Bachelor of Science and a Master of Science degree (12 hours dual credit)

Basic Eligibility:
3.0 GPA, 60 hours completed hours towards BS, performance in required coursework*

Timeline:
- Complete 60 credit hours
- Apply to and get accepted to BS-to-MS Program
- Take Graduate Courses
- Apply to MS Program
- Finish BS degree
- Finish MS degree

* https://www.cecs.ucf.edu/current-students/bs-ms-program/

http://cecs.ucf.edu/gradday
Benefits of a Master’s Degree

• Advance skillset
• Access to leadership roles
• Improve communication skills
• Enhance network
• Personal achievement
• Pathway to PhD
• And more …

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Visit us at: http://cecs.ucf.edu/gradday
“...[T]here is strong evidence that advanced education levels continue to be associated with higher salaries. A study by the Georgetown Center on Education and the Workforce showed that across the fields examined, individuals with a graduate degree earned an average of 38.3% more than those with a bachelor’s degree in the same field. The expected lifetime earnings for someone with a bachelor’s degree, $2.3 million; with a master’s degree, $2.7 million; and with a doctoral degree (excluding professional degrees), $3.3 million. Other data indicate that the overall unemployment rate for individuals who hold graduate degrees is far lower than for those who hold just an undergraduate degree.”

- Pathways Through Graduate School and Into Careers, Council of Graduate Schools (CGS) and Educational Testing Service (ETS), pg. 3.
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Participating Undergraduate Programs

- Aerospace Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Construction Engineering*
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Materials Science & Engineering**
- Mechanical Engineering

*Construction Engineering BS → Civil Engineering MS

**Aerospace or Mechanical Engineering BS → Material Science & Biomedical Engineering MS

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Program-Specific Eligibility Criteria

- Aerospace, Biomedical, Materials, and Mechanical Engineering
  - EGM 3601: Solid Mechanics or EGM 3601H: Honors Solid Mechanics
  - EGN 3343: Thermodynamics or EGN 3343H: Honors Thermodynamics
  - EML 3701: Fluid Mechanics or EML 3701H: Honors Fluid Mechanics

- Computer Engineering
  - 3.2 UCF/Major GPA
  - EEL 3123C: Networks and Systems or EEL 3123C: Honors Networks & Systems
  - EEL 3801C: Computer Organization
  - COP 3503C: Computer Science II or COP 3503H: Honors Computer Science II
  - The Foundations Exam

- Computer Science
  - COP 3503C: Computer Science II or COP 3503H: Honors Computer Science II

- Electrical Engineering
  - 3.2 UCF/Major GPA
  - EEL 3123C: Networks & Systems or EEL 3123C: Honors Networks & Systems
  - EEL 3801C: Computer Organization

- Industrial Engineering
  - EIN 4360: Work Design & Facilities Planning
  - MAS 3105: Matrix & Linear Algebra or MAS 3105H: Honors Matrix and Linear Algebra
  - EIN 3351: Engineering Economic Analysis & Cost Engineering

- Civil or Construction Engineering
  - 3.2 UCF/Major GPA
  - STA 3032: Probability and Statistics or STA 3032H: Honors Probability and Statistics
  - EGN 3331C: Mechanics of Materials
  - CWR 4202C: Hydraulics
  - CGN 3405: Numerical Methods

- Environmental Engineering
  - 3.2 UCF/Major GPA
  - ENV 3001: Environmental Engineering
  - CWR 3201C: Fluid Mechanics
  - EGN 3343: Thermodynamics or EGN 3343H: Honors Thermodynamics
  - CHM 2046C: Chemistry Fundamentals II

- Minimum 3.0 UCF/Major unless indicated otherwise
- “B” or better (not B-) required in each program’s required courses to be eligible for the BS-MS program
- Must have at least 9SCH of major courses remaining that can be taken at the graduate level
- Must have at least two semesters remaining at UCF (not including current term)
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BS-to-MS Application (myUCF Portal)

1. No supplemental information is required to apply (undergraduate level)
2. Admission decision is sent to student's Knights email
   - This is NOT admission to grad program
3. If admitted:
   - Connect to department ASAP
   - Do not apply to graduate MS program until last term of BS degree (request graduate app. fee waiver if 9SCH of graduate courses completed)

http://cecs.ucf.edu/gradday
Application Deadlines

• Spring 2024 – October 15
• Summer 2024 – March 15
• Fall 2024 – July 15

• Applications will be reviewed within a week of the deadline
• Students will be notified via their Knights email with admission decision

• Notifications should be around a week after the application deadline
Additional Opportunities

Students are not eligible for the BS-MS program if they:

1. Do not have at least 9SCH of courses in their undergraduate degree that can be taken at the graduate level and/or
2. Do not have at least 2 terms remaining prior to graduation

These students are encouraged to:

1. Explore Senior Scholar Options
2. If you still have courses remaining within your undergraduate degree that can be taken at the graduate level, you may request an override to take them as a senior scholar. Please reach out to your undergraduate faculty advisor to find out more. (must have B or better in prerequisites and 3.0 UCF/Major GPA)
3. If you are in your graduating term, please apply to the graduate program directly. We would love to have you continue your studies at UCF!

http://cecs.ucf.edu/gradday
Timeline

Meet Eligibility Criteria (60-90 SCH | 3.0GPA* | B or better in prerequisite courses)

Apply through myUCF (my.ucf.edu) by application deadline

Get Admitted to BS-to-MS

Submit signed course approval form to Anna.Canlon@ucf.edu

Take Graduate Courses (as early as the semester after acceptance)

Maintain 3.0 GPA in Grad Courses (at least 9 SCH)

Request application fee waiver via e-mail (Ms. Canlon)

Apply to MS Program (see link below)

Last Term at UCF undergrad?
Can take a 6000-level Course

Begin MS Program & POS

Finish BS Program

Finish MS Program

https://applynow.graduate.ucf.edu/apply/

CECS Accelerated BS-to-MS Information Session: Fall 2023
**CECS Accelerated BS-to-MS Numbers**

- Program Launched in Fall 2005
- Currently, 128 active Undergraduate Students and 111 Graduate Students

<table>
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<th>Dept.</th>
<th>Undergrad</th>
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<th>PhD</th>
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<tr>
<td>Total</td>
<td>128</td>
<td>81</td>
<td>30</td>
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Since Fall 2005, we have awarded 390 graduate degrees to BS to MS Participants.
CECS BS-to-MS Years to Degree

- BS to MS
  - 3 semesters: MS (4.84 years)
  - 6 semesters: PhD

- Non-BS to MS
  - 6 semesters
  - 9 semesters: MS (6.57 years)
  - 12 semesters: PhD
  - 15 semesters: PhD (13.6 years)
Graduate Program Specifics

• Determine Graduate Application Requirements by Program: Letters of Recommendation, Resume, Personal Statement, Transcript, GRE

• Be Aware of Deadlines—They Still Apply
  • Deadlines Can be Found in Graduate Catalog
  • Deadlines Can be Program Specific—Make Sure to Check
  • Financial Aid (Assistantships) are on a first-come, first-serve basis
Next Steps and Funding
Graduate Fellowships

• **Internal** – ORCGS, Presidential, Trustees, McKnight, McNair, etc.

• **External** – NSF, DoD SMART, DoD NDSEG, NASA, GEM, etc.

• Apply early
  • For Fall 2024 – November time-frame

• Contact prospective faculty advisor early

• Most funding is geared towards PhD students

https://graduate.ucf.edu/fellowships/

Renewed for Fall 2023
Professors

• Write proposals
• Manage research
• Support and mentor graduate/undergraduate
• Publish/Present/Promote
• Teach courses
• Serve on committees
• Consult (if time permits)
Graduate Students

• Manage Do research
• Teach Take courses
• Publish/Present
• Mentor, teach, and collaborate with undergraduates
• Learn to write research proposals (PhD only)
• Serve on committees
• Consult (if time permits)
College of Engineering and Computer Science

Research Centers and Faculty

- Advanced Materials Processing Analysis Center (AMPAC)
- **Center for Advanced Transportation Systems Simulation (CATSS)**
- **Center for Advanced Turbomachinery and Energy Research (CATER)**
- **Center for Research in Computer Vision (CRCV)**
- Coastal Dynamics of Sea Level Rise Research Cluster of Excellence
- Consortium for Applied Acoustoelectronics Technology
- Environmental Systems Engineering Institute
- FEEDER Center, DOE
- **Future City Initiative**
- **Institute for Advanced Systems Engineering**
- Interactive Systems & User Experience Research Cluster of Excellence
- Materials Characterization Facility (MCF)
- MIST Center, NSF I/UCRC
- Stormwater Management Academy

CECS@UCF 2023
NSF CAREER Award Winners

2022 Recipients

- Kenjie Chen
  Engineering and Computer Sciences
  NSF Director's DFG
  Grant: $500,000

- Zhaomiao (Walter) Guo
  Engineering and Computer Sciences
  NSF Director's DFG
  Grant: $325,781

- Luigi Perotti
  Engineering and Computer Sciences
  NSF Director's DFG
  Grant: $520,769

2022: 8 Winners | 2021: 13 Winners...

CECS Virtual Grad Day
Your ONE-STOP SHOP for graduate programs
Graduate Assistantships

- Grad Assistantships = Work Study for Undergrad Students
- Pays for your in-state tuition, provides a stipend every two weeks, and health insurance
- May or may not include fees
- Variety of Positions
  - GRA – Graduate Research Assistants (Departmental)
  - GTA – Graduate Teaching Assistants (Departmental)
  - Graders (Departmental)
  - GA – Graduate Assistants (Campus Offices – OSI, Housing, Student Union, Office of Research, etc.,)
- In Fall 2023, we hired 508 MS and PhD Students on Grad Contracts
Grad Program Dept. Points of Contact

Civil, Environmental and Construction Engineering
Director: Dr. Andrew.Randall@ucf.edu
Coordinator: Mr. Arvin.Cortez@ucf.edu

Computer Science
Director: Dr. WZhang.cs@ucf.edu
Coordinator: Ms. Jeanine.Clements@ucf.edu

Electrical and Computer Engineering
Director: Dr. Mingjie.Lin@ucf.edu
Coordinator: Ms. Diana.Poulalion@ucf.edu

Industrial Engineering and Management Systems
Director: Dr. Mansooreh.Mollaghasemi@ucf.edu
Coordinator: Ms. Rebecca.Underhill@ucf.edu

Materials Science and Engineering
Director: Dr. Jiyu.Fang@ucf.edu
Graduate Assistant: Ms. KerryAnn.Wright@ucf.edu

Mechanical and Aerospace Engineering
Director: Dr. Jihua.Gou@ucf.edu
Coordinator: TBA

https://grad.cecs.ucf.edu/academic-programs/departments-and-key-contacts/

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Other Notes

- Graduate tuition is about 28% more than undergraduate tuition (Bright Futures will pay about 74% the graduate tuition)
  - UG: $288.16/credit
  - G: $369.65/credit \textbf{| $11,074.5 for 30 credits}}
  - BS-to-MS+BF G: $81.49/credit
  - BS-to-MS+BF G: $977.88 for 12 credits + $6,644.77 for 18 credits = \textbf{$7,622.58 for 30 credits}}

- Current graduate tuition rates for in- and out-of-state is listed here: https://studentaccounts.ucf.edu/tf-graduate/
- Time-to-completion is designed to be minimally two additional semesters (saves two semesters)
- Both thesis and non-thesis programs are options
CECS Graduate Programs

**Graduate Certificate (GC) Programs**
- Computer Forensics
- Construction Engineering
- Data Analytics
- Guidance Controls and Dynamics
- Healthcare Systems Engineering
- Mixed Reality Engineering
- Project Engineering
- Quality Assurance
- Structural Engineering
- Systems Engineering
- Technologies for Smart Communities
- Transportation Engineering

**Master's of Science (MS) Degree Programs**
- Aerospace Engineering
- Biomedical Engineering
- Civil Engineering
- Computer Engineering
- Computer Vision
- Computer Science
- Cybersecurity and Privacy
- Data Analytics
- Digital Forensics
- Electrical Engineering
- Engineering Management
- Environmental Engineering
- FinTech*
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Modeling and Simulation*
- Systems Engineering
- Travel Technology and Analytics

**Specialty Graduate Programs**
- MS in Engineering Management, Professional Project & Systems Engineering Track (a cohort-based program)
- MS in Data Analytics
- Graduate Certificate in Data Analytics
- MS in Healthcare Systems Engineering Track

**Doctor of Philosophy (PhD) Degree Programs**
- Aerospace Engineering
- Big Data Analytics*
- Biomedical Engineering
- Civil Engineering
- Computer Engineering
- Computer Science
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Materials Science and Engineering
- Mechanical Engineering
- Modeling and Simulation*

**New for Fall 2022**
- Also offered as fully online
  - *Interdisciplinary program

**Admit Term**
- Fall Priority
- Fall
- Spring
- Fall

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<th>January 15th (December 1st)</th>
<th>July 1st (December 1st)</th>
<th>December 1st (July 1st)</th>
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CECS Graduate Programs Open House

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Topics:
✓ Accelerated BS-to-MS Programs
☐ MS Programs:
☐ PhD Programs

Interested in a research position? Visit https://bit.ly/3gAnycu

http://cecs.ucf.edu/gradday
Summary

• Transitioning to the graduate program takes effort
• Identify your motivation(s)
• Develop a personal roadmap and execute your plan
• You can do this!!!

Join Us at the CECS BS-to-MS Networking and Advising Session: Coming Soon

CECS Accelerated BS-to-MS Information Session: Fall 2023

http://cecs.ucf.edu/gradday
Thanks for Your Attention

Special Thanks:
CECS:
Bel Huston, Kimberly Lewis, Paul Sepulveda, Sumanta Pattanaik, Mansooreh Mollaghasemi, Andrew Randall, Mingjie Lin, Jihua “Jan” Gou, Liqiang Wang, Jiyu Fang, and Michael Georgiopoulos

CGS:
Leben Goldman and Elizabeth Klonoff
CECS Accelerated BS-to-MS Info Session
(designed for current UCF undergraduates)

This session has ended