College of Engineering and Computer Science

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

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

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

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

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

• 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 one year after completion of their bachelor’s

• Early identification of areas of graduate study and research

Key Benefits:

• Eases the admission process

• Reduces the cost of earning a graduate degree

• Waived graduate application fee

• Provides an opportunity to assess your skills in a graduate-level environment

• Allows students to study in smaller class sizes

CECS Accelerated BS-to-MS Information Session

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

• Advance skillset
• Access to leadership roles
• Improve communication skills
• Enhance network
• Personal achievement
• And more …
Benefits of a CECS Graduate Degree

Consider Career Earnings Difference

Average Starting Annual Salary (Thousands)

<table>
<thead>
<tr>
<th>Program</th>
<th>BS</th>
<th>MS</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace</td>
<td>$65</td>
<td>$67</td>
<td>$77</td>
</tr>
<tr>
<td>Civil</td>
<td>$57</td>
<td>$60</td>
<td>$75</td>
</tr>
<tr>
<td>Comp Engr</td>
<td>$75</td>
<td>$76</td>
<td>$75</td>
</tr>
<tr>
<td>Comp Sci</td>
<td>$99</td>
<td>$82</td>
<td>$80</td>
</tr>
<tr>
<td>Electrical</td>
<td>$68</td>
<td>$64</td>
<td>$65</td>
</tr>
<tr>
<td>Environment</td>
<td>$53</td>
<td>$60</td>
<td>$62</td>
</tr>
<tr>
<td>Industrial</td>
<td>$82</td>
<td>$70</td>
<td>$69</td>
</tr>
<tr>
<td>Materials Sci.</td>
<td>$83</td>
<td>$74</td>
<td>$74</td>
</tr>
<tr>
<td>Mechanical</td>
<td>$85</td>
<td>$82</td>
<td>$73</td>
</tr>
<tr>
<td>Modeling and Sim.</td>
<td>$126</td>
<td>$85</td>
<td></td>
</tr>
</tbody>
</table>


Note: Data not reported for academic programs that have yet to produce graduates or with a low number of respondents.

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.
Fast Facts of CECS

IMMEDIATE PLAN

FIRST DESTINATION SURVEY RESULTS

To gauge the success of our programs, UCF administers the First Destination Survey to all graduating students. For the Summer 2019 through Fall 2019 Engineering and Computer Science classes, 93 percent of 209 students completed the survey, and here’s what they said.

IMMEDIATE PLAN

FIRST DESTINATION SURVEY RESULTS

To gauge the success of our programs, UCF administers the First Destination Survey to all graduating students. For the Summer 2019 through Fall 2019 Engineering and Computer Science classes, 94 percent of 207 students completed the survey, and here’s what they said.

LOCAL IMPACT

TOP COMPANIES

For graduates who reported they were already working or had received a full-time offer, here are the top companies:

1. Lockheed Martin
2. Northrop Grumman
3. Boeing
4. General Electric
5. University of Central Florida
6. Microsoft Corporation
7. Siemens Corporation
8. Google, Inc.
9. Embraer Executive Aircraft, Inc.

LOCAL IMPACT

For graduates who reported they were already working or had received a full-time offer, here are the top companies:

1. Lockheed Martin
2. University of Central Florida
3. Accenture
4. Siemens Corporation
5. NASA Kennedy Space Center
6. Northrop Grumman
7. City of Orlando
8. Harris Corporation
9. Boeing
10. King Abdullah City for Science and Technology

RELEVANCE

For graduates who entered the workforce, 96 percent reported taking jobs related to their field of study.

96%

UTILIZING RESOURCES

Respondents were asked to identify all UCF resources that were used, or will be used, to obtain employment.

Utilizing Resources
Handshake Online Resources Networking Career Services Experiential Learning
53 70 51 49

EARNING POTENTIAL

For graduates who reported salary information, the average annual income was:

$67,060

2019-2020 Average Starting Salary

Utilizing Resources
Handshake Online Resources Networking Career Services Experiential Learning
51 49 70 27

EARNING POTENTIAL

For graduates who reported salary information, the average annual income was:

$76,487

2019-2020 Average Starting Salary
Graduate Program Types

<table>
<thead>
<tr>
<th>Program Type</th>
<th>Credit Hour Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD</td>
<td>72</td>
</tr>
<tr>
<td>MS</td>
<td>30</td>
</tr>
<tr>
<td>Certificate</td>
<td>9-15</td>
</tr>
</tbody>
</table>

**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

12 hours of grad courses

BS Degree

12

128

http://cecs.ucf.edu/gradday
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/
College of Engineering and Computer Science

Professional Development

UPCOMING PATHWAYS EVENTS

2020-2021 Graduate Student PROFESSIONAL DEVELOPMENT SERIES

Fellowships and CV Workshop
Wednesday, August 4, 2021 @ 10:00 am

Academic Job Search
Tuesday, September 14, 2021 @ 10:00 am

Ph.D. Alumni Panel
Wednesday, November 3, 2021 @ 10:00 am

Salary Negotiation
Monday, November 29, 2021 @ 10:00 am

Women’s Alumni Panel Research Session
Wednesday, December 1, 2021 @ 10:00 am

Joint CECS Alumni Association and CECS Graduate Affairs Workshop on Entrepreneurship
Wednesday, January 26, 2022 @ 10:00 am

Supported by CECS Graduate Affairs, these free workshop programs offer members opportunities to interact with CECS graduates, B.S. CECS students, and interested individuals. All workshops will be offered via Zoom or https://cecs.ucf.edu/gradday.

University-wide

CECS Accelerated BS-to-MS Information Session

CECS-specific

http://cecs.ucf.edu/gradday
Eligibility
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 \(\rightarrow\) Civil Engineering MS
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

- Computer Science
  - COP 3503C: Computer Science II or COP 3503H: Honors Computer Science II
  - The Foundations Exam

- 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 Liners 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

-Must have a B or better in courses listed here
- Some majors require higher than 3.0 GPA (as shown)
- 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)
BS-to-MS Application (myUCF Portal)

1. Access the Scholarship Application Home Page.
2. Add a New Application.
3. Choose the appropriate scholarship.

http://cecs.ucf.edu/gradday
Students are not eligible for the BS-MS program if they:

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

These students are encouraged to:

1. Attend the Graduate Information Sessions later this week!
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!
Timeline

Meet Eligibility Criteria (60-90 SCH | 3.0GPA* | B or better in prerequisite courses)
Apply through myUCF (my.ucf.edu)
Get Admitted to BS-to-MS (apps processed once-per-month)
Submit signed course approval form to Nina.Leonard@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. Leonard)
Apply to MS Program (see link below)
Finish BS Program
Last Term at UCF undergrad?
Can take a 6000-level Course
Begin MS Program & POS
Finish MS Program

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

CECS Accelerated BS-to-MS Information Session
College of Engineering and Computer Science

College of Graduate Studies: Application Process

Graduate Admissions
See what UCF Graduate Studies has to offer

FIND A DEGREE  APPLY ONLINE  CHECK STATUS

CECS Accelerated BS-to-MS Information Session
http://cecs.ucf.edu/gradday
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
  • https://catalog.ucf.edu/index.php

Application Deadlines

<table>
<thead>
<tr>
<th>Domestic Applicants</th>
<th>*Fall Priority</th>
<th>Fall</th>
<th>Spring</th>
<th>Summer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan 15</td>
<td>Jul 15</td>
<td>Dec 1</td>
<td>Apr 15</td>
</tr>
</tbody>
</table>
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 2021 – November time-frame
- Contact prospective faculty advisor early
- Most funding is geared towards PhD students

https://graduate.ucf.edu/fellowships/
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
- Resilient, Intelligent and Sustainable Energy Systems (RISES) Cluster
- Stormwater Management Academy

CECS@UCF 2021
NSF CAREER Award Winners

Samik Bhattacharya (MAE)  Robert L. Steward, Jr (MAE)

Yanjie Fu (CS)  Lorraine Leon (MSE)

CECS Accelerated BS-to-MS Information Session  http://cecs.ucf.edu/gradday
What Professors Do

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

- 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)
Grad Program Directors

Civil, Environmental and Construction Engineering
Director: Dr. Andrew.Randall@ucf.edu
Coordinator: Ms. Ana Lucia Salas

Computer Science
Director: Dr. Liqiang.Wang@ucf.edu
Coordinator: Ms. Jeanine.Clements@ucf.edu

Electrical and Computer Engineering
Director: Dr. Kalpathy.Sundaram@ucf.edu
Coordinator: Ms. Diana.Poulalion@ucf.edu

Industrial Engineering and Management Systems
Director: Dr. Mansooreh.Mollaghasemi@ucf.edu
Coordinator: Mr. Ricardo.Scuotto@ucf.edu

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

Mechanical and Aerospace Engineering
Director: Dr. Jihua.Gou@ucf.edu
Coordinator: Ms. Gabriela.Laboy@ucf.edu

www.cecs.ucf.edu/current-students/graduate-programs-advising/
• Graduate tuition is about 75% more than undergraduate tuition (Bright Futures will pay half the graduate tuition)
• 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, but you can extend it to be longer
• Do not attempt to take more than three graduate courses at once
• 6000-Level courses are only available for your final, undergraduate semester
• Some BS-to-MS programs require higher GPAs than a 3.0 (i.e., Electrical and Computer Engineering)
• Both thesis and non-thesis programs are options
• Admissions decisions occur on a monthly basis
Beyond the BS-to-MS
Beyond the BS-to-MS Program

**Graduate Certificate (GC) Programs (15)**
- Computer Forensics
- Construction Engineering
- Data Analytics
- **FinTech**
- 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 (18)**
- **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 Engineering Management (PEM) Track (a cohort-based program)
- MS in Data Analytics
- Graduate Certificate in Data Analytics
- **MS in Healthcare Systems Engineering Track**

**Doctoral (PhD) Degree Programs (11)**
- 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 2021 | expected 2022 | also offered as fully online | *Interdisciplinary program**
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.
Summer 2021 Virtual Grad Day

Your ONE-STOP SHOP for graduate programs

Interested in getting a master’s or a Ph.D.? Don’t miss the UCF College of Engineering and Computer Science’s Graduate Open House Day! Meet college faculty and staff, and learn about new and classic academic programs.

These sessions are designed with you in mind. This is a perfect opportunity to learn about our college and get answers to your most important questions as a prospective graduate student. We want you to leave our virtual open house knowing that UCF and the College of Engineering and Computer Science are a great fit for you.

REGISTER TODAY:

- Accelerated MS to MS programs
- Master’s programs
- Specialty and new programs
- PhD programs

Tuesday, June 1
5:00-6:00 p.m.

Wednesday, June 2
5:30-7:00 p.m.

Thursday, June 3
5:30-7:30 p.m.

Friday, June 4
9:30-11:00 a.m.

For more information, visit www.cecs.ucf.edu/gradday

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!!!
Thanks for Your Attention

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

CGS:
Leben Goldman, Jennifer Parham, and Elizabeth Klonoff

Future CECS Grad Days:
- Fall: first week of October,
- Spring: last week of February
- Summer: First week of June