Graduate School Conference
and
Graduate Fair
March 2, 2018

Frank M. Gerner, PhD
Senior Associate Dean
College of Engineering and Applied Science
Professor of Mechanical Engineering
ENGINEERING FACILITIES

More than 900,000 square feet
- Teaching Spaces
- Interdisciplinary Laboratories
- Research Facilities
~179 faculty members
~4,500 undergraduate students
~1,200 graduate students | 3:2 MS/PhD ratio
CO-OP FOUNDED AT UC

1906 – Herman Schneider, Dean of the College of Engineering, implemented his co-op plan —

“joining theory and practice, linking education and industry through knowledge and experience.”

Today, more than 1,000 institutions of higher education throughout the world have adopted the co-op concept.
NEIL ARMSTRONG (1930-2012)
the University of Cincinnati’s most famous faculty member —
Professor of Aeronautical Engineering, 1971-79

NEIL ARMSTRONG INITIATIVE
UC-NASA Space Act Agreement
The **Golden Gate Bridge** was designed by UC engineering graduate, Joseph Strauss
DEGREES OFFERED

- Master of Engineering (MEng)
  - Can be completed in one year
  - Total 30 credit hours: 24-27 course credit hours plus 3-6 credit hours of capstone

- Master of Science (MS)
  - Can be completed in 2-3+ years
  - Total 30 credit hours: 18-21 course credit hours, 9-12 research credit hours, written thesis

- Doctoral (PhD)
  - Can be completed in 4-5+ years
  - Total 90 credit hours (post-BS): min 30 course credit hours, min 58 thesis research credit hours, written dissertation
  - Total 60 credit hours (post-MS): min 18 course credit hours, min 42 research credit hours, written dissertation
Distance Learning

Master of Engineering – Online Program

• Designed to allow working professionals the opportunity to get a graduate degree
• All courses online; students do not need to come to campus
• Two courses offered each term; complete the degree in 5 semesters
• Same admission requirements and degree requirements as in-person program
• Available in Mechanical Engineering and Electrical Engineering
SPECIAL PROGRAMS

Aero-Systems Operations Program (AESOP)

• Graduate degree offered in collaboration with University of Bordeaux, France
• Focused on life-cycle management of aircraft systems
• Fall semester at UC / Spring semester at University of Bordeaux / Project or internship in Bordeaux or UC
• All classes in English
• Master of Engineering from / International from UB
• Open to a variety of engineering disciplines (and potentially other STEM majors)
• [http://ceas.uc.edu/aesop.html](http://ceas.uc.edu/aesop.html)
Computer Science

Research Foci

- Complex, adaptive & intelligent systems
- Database design, warehousing, mining, query, and optimization
- Pattern recognition and algorithms for bioinformatics
- Cybersecurity
- Electronic energy systems

Graduate Program Director – Contact Information

Dr. Marc Cahay, marc.cahay@uc.edu
Aerospace Engineering & Engineering Mechanics

Research Foci

• Intelligent Control & Thermal Management
• Advanced Energy Sources for Low Emissions
• System/Component Prognosis & Life Management

Turbofan icing and erosion predictions: droplet & particle trajectories

Graduate Program Director – Contact Information
Dr. Jongguen Lee, jongguen.lee@uc.edu
Biomedical Engineering

**Research Foci**

- Imaging
- Acoustics
- Biomechanics
- Vascular cell and tissue engineering
  - (Regenerative Medicine)
- Cardiovascular

Graduate Program Director – Contact Information

Dr. Jing-Huei Lee, jing-huei.lee@uc.edu
Chemical Engineering

Research Foci

- Membrane research and applications
- Biotechnology and bio-treatments
- Polymer research
- Energy and Environment
- Materials separation, absorption and catalysis

Graduate Program Director – Contact Information

Dr. Joo-Youp Lee, joo.lee@uc.edu
Research Foci

- Earthquake engineering of steel, reinforced concrete, and composite structures
- Energy Efficiency in Buildings
- Feasibility of renewable energy projects
- Large scale experimentation of structures and structural details
- Bridge engineering
- Structural connections
- Intelligent transportation systems
- Traffic safety for Livable Community
- Sustainability in construction
- On-road Emission and Ambient Health Implication

Graduate Program Director – Contact Information
Dr. G.A. Rassati, gian.rassati@uc.edu
Electrical Engineering & Computer Engineering

Research Foci

• Advanced electronic materials and devices
• Micro, nano, and bio-health systems
• Complex, adaptive & intelligent systems
• Advanced information & communication systems
• Embedded computing, virtual & mobile systems
• Electronic energy systems

Polymer Lab-on-a-Chip for Point-of-Care Testing

Graduate Program Director – Contact Information
Dr. Marc Cahay, marc.cahay@uc.edu
Environmental Engineering and Science

Research Foci

- Air Quality
- Environmental Hydrology
- Water Quality processes

Graduate Program Director – Contact Information

Dr. Dion Dionysiou, Dionysios.d.dionysiou@uc.edu
Materials Science and Engineering

Research Foci

• Nanobiomedicine
• Carbon Nanotube Synthesis
• Metallic Biomaterials
• High Temperature Alloys
• Materials Characterization

Graduate Program Director – Contact Information
Dr. Donglu Shi, donglu.shi@uc.edu
Longest carbon nanotube (CNT) arrays in the world

A simulation model of an artery system for cardiovascular diagnostics

Mechanical Engineering

Research Foci

• Structural Dynamics & Acoustics
• Intelligent Prognostics & Autonomous Systems
• Advanced Vehicle Technologies
• Micro, Nano & Bio-Health Systems
• Integrated Product & Process Development
• Advanced Materials
• Thermal Management and Energy Storage systems

Graduate Program Director – Contact Information
Dr. David Thompson, david.thompson@uc.edu
Why Get A Graduate Degree

INCOME BY DEGREE EARNED AND LENGTH OF EXPERIENCE

- Doctorate (engineering)
- BS Degree (engineering)
- MS Degree (engineering)

Median Annual Income (U.S. dollars)
## Program Costs

### Full Time Cost

**Per Academic Semester**

<table>
<thead>
<tr>
<th></th>
<th>TOTAL COST ALL</th>
<th>Student Out of Pocket Costs</th>
<th>Student Out of Pocket Cost</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Tuition/Fees/Health Insurance</td>
<td>After Tuition Scholarship Award</td>
<td>After Tuition Scholarship and GA Tuition scholarship</td>
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<tr>
<td><strong>MS &amp; PhD</strong></td>
<td></td>
<td></td>
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<tr>
<td>In-State</td>
<td>$8,970</td>
<td>$4,259</td>
<td>$377</td>
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<tr>
<td><strong>MS &amp; PhD</strong></td>
<td>$14,966.00</td>
<td>$4,384</td>
<td>$502</td>
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<tr>
<td>Non Resident</td>
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<tr>
<td><strong>MEng</strong></td>
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<tr>
<td>In-State</td>
<td>$8,970</td>
<td>$6,480</td>
<td>N/A</td>
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<tr>
<td><strong>MEng</strong></td>
<td>$14,966.00</td>
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<tr>
<td>Non Resident</td>
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FUNDING Opportunities

• Graduate Incentive Scholarship - Every full time student in a MEng, MS or PhD program will qualify for a tuition scholarship.

• RA/TA/GA – Research, Teaching and Graduate assistantships are available to some MS and PhD students. This is a stipend of $900.00/bi weekly ($23,400 annually) for 20 hours of work per week. This award will be listed in the offer letter and can be awarded after beginning a degree program from an advisor or the department. RA/TA/GA positions are not guaranteed.

• Rindsberg Fellowship – Qualifications for consideration are:
  – GPA 3.80+
  – BS from an ABET accredited university
  – A new incoming US Citizen
  – Student has possible interest in pursuing academic career
Application Process

• The first step towards joining one of our graduate programs is to submit an online application at: http://catalyst.uc.edu/apply

• Application deadline for fall 2018 is May 1, 2018

• Required application materials:
  • One letters of recommendation
  • Unofficial transcripts (undergraduate and graduate)
  • Statement of Purpose
  • GRE is not required for any student that receives their BS degree from an ABET accredited University in the US with a GPA of 3.0+ with the exception of the Biomedical program. GRE is required from all Biomedical applicants.
Important websites...

• Online application:  http://catalyst.uc.edu/apply

• Information about College of Engineering and Applied Science
  http://www.ceas.uc.edu/Graduate_Studies.html

• Information about UC Graduate School:
  http://www.grad.uc.edu

• Graduate School Handbook:
  http://grad.uc.edu/studentlife/graduate_student_handbook.html
Graduate Studies Office Staff

- Dr. Frank M. Gerner
  - Sr. Associate Dean for Graduate Studies
  - Professor of Mechanical Engineering

**MEng Programs**

- Mr. Eugene Rutz
  - Director Academic
  - Manager, MEng programs

- Ms. Julie Steimle
  - Assistant Director
  - MEng for all Departments

**MS & PhD Programs**

- Ms. Julie Muenchen
  - Director Academics – Graduate Studies Office
  - Aerospace Eng., Civil Eng., Electrical Eng. and Computing Sciences

- Ms. Barb Carter
  - Assistant Director
  - Biomedical, Chemical, Environmental, Material
  - and Mechanical Engineering
For more information...

• Visit the CEAS table at the Graduate Fair
• Handouts available for each program
• Questions?
• Speak with one of our representatives at the Graduate Fair CEAS table.