Doctor of Engineering
in Engineering Management

Information Session
Tuesday, March 23, 2021

Classes Begin
August 2021

Shahram Sarkani, Ph.D., P.E.
Professor of Engineering Management and Systems Engineering
Director, SEAS Online Programs
Information Session Agenda

- Overview of The George Washington University
- Doctor of Engineering (D.Eng.) Program
  - Program Overview
  - Academic Requirements
  - Application Information
- Q & A Session
The George Washington University

- Chartered in 1821 by an Act of Congress
- 10 colleges and schools, including the School of Engineering & Applied Science
- More than 15,000 graduate students
- Alumni network of 290,000 in 134 countries
- Accredited by the Middle States Commission on Higher Education
- GWU’s Online Graduate Engineering Programs ranked #14 by US News
- GWU’s Online Graduate Engineering Programs Ranked #13 for Veterans by the US News
Our Online Programs

→ Course content and degree conferred are identical to the main campus programs

→ Online classes meet synchronously via Zoom and are recorded for future viewing

→ Supported by Blackboard, GW’s web-based course management software

→ Exams are taken through a secure testing platform, RPNow
D.Eng. Field of Study
Engineering Management

Bridges the gap between engineering and management. EM enables engineers to work most effectively in the business environment. A degree in EM provides a technical-based alternative to traditional business programs. Candidates specialize in such areas as management of technology, product and process, quality, organizational management, operations management, program management, marketing and finance.
Doctor of Engineering

• 45 credit hours (minimum)
• Classroom Phase
  • 10 graduate-level, 3-credit-hour courses
• Research Phase
  • Minimum 15 credit hours of praxis development
  • Praxis defense
• Program Begins
  • August 2021
• Planned Program Completion
  • August 2023
## D.Eng. Classroom Phase

<table>
<thead>
<tr>
<th>Session</th>
<th>#Courses</th>
<th>#Credit Hours</th>
<th>Tentative Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall-1 2021</td>
<td>2</td>
<td>6</td>
<td>August 14 – October 16, 2021</td>
</tr>
<tr>
<td>Fall-2 2021</td>
<td>2</td>
<td>6</td>
<td>October 23 - January 15, 2022</td>
</tr>
<tr>
<td>Spring-1 2022</td>
<td>2</td>
<td>6</td>
<td>January 22 – March 26, 2022</td>
</tr>
<tr>
<td>Spring-2 2022</td>
<td>2</td>
<td>6</td>
<td>April 2 – June 4, 2022</td>
</tr>
<tr>
<td>Summer 2022</td>
<td>2</td>
<td>6</td>
<td>June 11 – August 13, 2022</td>
</tr>
</tbody>
</table>

*No classes on Thanksgiving, Christmas, and New Year Weekends*

- 2 courses per session
- Each session is 10 weeks long
- Classes meet Saturdays
  - Morning Class from 9:00a-12:00p (Eastern)
  - Afternoon Class from 1:00p-4:00p (Eastern)
D.Eng. Classroom Phase
Proposed Curriculum

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMSE 6115</td>
<td>Uncertainty Analysis for Engineers</td>
</tr>
<tr>
<td>EMSE 6420</td>
<td>Uncertainty Analysis in Cost Engineering</td>
</tr>
<tr>
<td>EMSE 6547</td>
<td>Cyber Resilience</td>
</tr>
<tr>
<td>EMSE 6710</td>
<td>Applied Optimization Modeling</td>
</tr>
<tr>
<td>EMSE 6765</td>
<td>Data Analysis for Engineers and Scientists</td>
</tr>
<tr>
<td>EMSE 6769</td>
<td>Machine Learning for Engineers</td>
</tr>
<tr>
<td>EMSE 6790</td>
<td>Logistics Planning</td>
</tr>
<tr>
<td>EMSE 6992-A</td>
<td>Special Topic: Lean Six Sigma for the Engineering Manager</td>
</tr>
<tr>
<td>EMSE 8099</td>
<td>Survey of Research Formulation for Engineering Management</td>
</tr>
<tr>
<td>EMSE 8100</td>
<td>The Praxis Proposal</td>
</tr>
</tbody>
</table>

Schedules, regulations and policies subject to change; course substitution in the curriculum is usual and should be expected.
D.Eng. Research Phase

- After completion of the classroom phase with a GPA of 3.2 or higher, and no grade below B-, students begin praxis research

- Praxis Research
  - During this stage, students will develop and defend praxis
  - Minimum half-hour individual research meetings initially every other week
  - Praxis defenses are scheduled for the end of the final semester of research

- Research course EMSE 8199 Praxis Research
  - Session I: Fall 2022, 6 credit hours
  - Session II: Spring 2023, 6 credit hours
  - Session III: Summer 2023, 3 credit hours
  - One to two semesters extension through Spring 2024 (6 credit hours each) may be granted.

Students have two opportunities to defend their praxis. If they do not successfully defend their praxis by Spring 2024, they will be awarded a Professional Degree (Degree of Engineer).
Praxis Research Areas

Sample Praxis Titles from Previously Published D.Eng. Praxis Papers

• Energy Storage Systems Architecture Optimization to Facilitate Penetration of Distributed Rooftop Photovoltaic Generation

• Reducing Time and Cost Overruns for Aerospace Development Programs Using Precedence Networks Patterns

• Methods for Efficient Integration of Rapid Response Projects into Large Weapon Systems

• Improving Command & Control, Intelligence, Surveillance, and Reconnaissance Aircraft Availability Rates via Kijima Type Generalized Renewal Processes

• A Decision Support Tool for Designing Energy-efficient Residential Buildings at the Early Planning and Design Stage
## Comparison of D.Eng. and Ph.D.

<table>
<thead>
<tr>
<th></th>
<th>Doctor of Engineering (D.Eng.)</th>
<th>Doctor of Philosophy (Ph.D.)</th>
</tr>
</thead>
</table>
| **Research Philosophy** | • Applied research  
                      • Solves a practical problem                                   | • Fundamental research  
                      • Contributes to literature in the field                     |
| **Career Goal**       | • Technical Leadership  
                      • Industry Career Advancement  
                      • Teaching Oriented Faculty                                   | • Academic Career  
                      • Career in Industrial Research  
                      • Research Oriented Faculty                                    |
| **Completion time**   | Minimum of 2 years (Maximum 3 years)                                      | Minimum of 3 years (Maximum 5 years)                      |
Doctoral Programs
Tuition & Fees

2021-2022 Academic Year:

$1,570 per credit

• $35 registration fee Spring, Summer, and Fall Semesters

• Digital textbooks and software are provided at no additional charge
Application Information
GW Application Process

Completed Application Packet includes:

- Online Application Form
  - Available at: https://seasonline.gwu.edu/apply-today/doctor-of-engineering-program/
- Current Resume
- Statement of Purpose (250 words or less)
- Official Academic Transcripts

All submitted materials remain property of SEAS Online Programs
GW Application Process

Academic Transcripts

Electronic Transcripts should be sent to
applyonline@gwu.edu

or via United States Postal Service mail to:
SEAS Online Programs Office
The George Washington University
170 Newport Center Drive
Suite 260
Newport Beach, CA 92660

All Transcripts must be sent directly from the institution
GW Application Process

- Admission decisions are made on a rolling basis and communicated via email. Please note, slots are limited. Applications will be accepted as long as slots are available.

- Admitted applicants must complete and return a reply card and a non-refundable tuition deposit of $495 by the deadline provided in admission letter (usually 2-3 weeks). Tuition deposit is applied to the first session’s tuition.
GW Contact Information

SEAS Online Programs Office
Shahram Sarkani, Ph.D., P.E., Director
Thomas A. Mazzuchi, D.Sc., Co-Director

- Admissions Team
  - applyonline@gwu.edu
  - Tel: 833-330-1454, option #1
- J.P. Blackford, D.Eng., Academic Director of D.Eng. Program
- Amir Etemadi, Ph.D., Research Director of D.Eng. Program
  - seasdoc@gwu.edu
- Mark Griffith, Distance Learning Technologist
  - seasonline@gwu.edu
  - Tel: 202-422-2806
Answers to Frequently Asked Questions

To protect your privacy, questions regarding individuals’ specific application, degrees, background, or experience will not be answered during this Q&A session.

• D.Eng. cohorts begin each Spring and Fall semester.
• Approximately 30 slots are available.
• Transfer credit is not allowed toward doctoral programs.
• Students should be expected to spend approximately 20 hours a week on coursework/research.
Questions regarding individuals’ specific application, degrees, background, or experience will not be answered during the Q&A session.