

ENGINEERING MANAGEMENT AND SYSTEMS ENGINEERING

Mission Statement

The mission of the Department of Engineering Management and Systems Engineering is to deliver an integrated program of research, teaching, and public service to the technology community. The department develops creative leadership to bridge dynamic, complex technologies, and societal needs. This includes delivering instruction in the management of technology and in systems engineering, operations research, and allied fields to undergraduate and graduate students who are preparing to assume leadership roles as technology professionals. The department's programs provide an understanding of the managerial role, analysis of the diverse functions of technology-based organizations, and instruction in modern management and mathematical analysis and modeling tools as they apply to formulating and executing decisions in engineering and scientific organizations. In addition, research programs feature the study of the management of technology; fundamental and applied research in systems engineering and operations, with a particularly strong interest in stochastic analysis and system optimization; sponsorship from government, industry, and the technology community; and a strong presence in refereed professional journals and leadership in professional societies.

UNDERGRADUATE

Bachelor's programs

- Bachelor of Arts with a major in applied science and technology (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/bs-applied-science-technology/>)
- Bachelor of Science with a major in systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/bs-systems-engineering/>)*

Combined program

- Dual Bachelor of Arts with a major in applied science and technology and master of science in the field of computer science (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/dual-ba-applied-science-technology-ms-computer-science/>)
- Dual Bachelor of Arts with a major in applied science and technology and Master of Science in the field of cybersecurity in computer science (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/dual-ba-applied-science-technology-ms-cybersecurity/>)
- Dual Bachelor of Arts with a major in applied science and technology and Master of Science in the field of data analytics (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/dual-ba-applied-science-technology-ms-data-analytics/>)

[science/engineering-management-systems-engineering/dual-ba-applied-science-technology-ms-data-analytics/](http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/dual-ba-applied-science-technology-ms-data-analytics/))

Minors

- Minor in data analytics for decisions (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/data-analytics-for-decisions-minor/>)
- Minor in engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/minor-engineering-management/>)
- Minor in operations research (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/minor-operations-research/>)
- Minor in systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/minor-systems-engineering/>)

*The bachelor of science with a major in systems engineering is accredited by the ABET Engineering Accreditation Commission (EAC).

GRADUATE

Master's programs

- Master of Engineering in the field of cloud computing management (<http://bulletin.gwu.edu/engineering-applied-science/cloud-computing-management-meng/>) (online)*
- Master of Engineering in the field of cybersecurity analytics (<http://bulletin.gwu.edu/engineering-applied-science/cybersecurity-analytics-meng/#text>)(online)*
- Master of Engineering in the field of cybersecurity policy and compliance (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/cybersecurity-policy-and-compliance-meng/#text>) (online)*
- Master of Science in the field of data analytics (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/data-analytics-ms/>) (on-campus)**
- Master of Science in the field of engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/engineering-management-ms/>) (on-campus)
- Master of Science in the field of engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-ms-online/>) (online)
- Master of Science in the field of systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/systems-engineering-ms/>) (on-campus)

- Master of Science in the field of systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/systems-engineering-ms-online/>) (online)

Doctoral program

- Doctor of Engineering in the field of engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/doctor-engineering-management/>) (on-campus)
- Doctor of Engineering in the field of engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/doctor-engineering-management-online/>) (online)
- Doctor of Philosophy in the field of engineering management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/phd-engineering-management/>) (on-campus)**
- Doctor of Philosophy in the field of systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/phd-systems-engineering/>) (on-campus)
- Doctor of Philosophy in the field of systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/phd-systems-engineering-online/>) (online)

*Not offered on-campus.

**Not offered online.

CERTIFICATES

Graduate certificate programs

- Business crisis, continuity, and recovery management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/business-crisis-continuity-recovery-management-certificate/>)
- Emergency management and public health (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/emergency-management-public-health-certificate/>)
- Energy engineering and management (<http://bulletin.gwu.edu/engineering-applied-science/mechanical-aerospace-engineering/energy-engineering-management/>)
- Energy systems management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/energy-systems-management-certificate/>)
- Engineering and technology management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/engineering-technology-management/>)
- E (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/>)

environmental-energy-systems-management-certificate/)nvironmental and energy systems management

- Environmental systems management
- Homeland security emergency preparedness and response
- Systems engineering (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/systems-engineering-certificate/>)
- Systems management (<http://bulletin.gwu.edu/engineering-applied-science/engineering-management-systems-engineering/systems-management-certificate/>)

FACULTY

Professors: J.P. Deason, J.R. van Dorp, T.A. Mazzuchi, B. Narahari, S. Sarkani

Associate Professors: H. Abeledo, J.A. Barbera, J.R. Santos, R.A. Francis, Z. Szajnfarber (*Chair*)

Assistant Professors: D. Broniatowski, E. Gralla, J.P. Helveston, E. Shittu,

Professorial Lecturers: R.M. Andersen, M.J. Armstrong, J.H. Chang, T.H. Holzer Jr., J.V. Shah, J.S. Wasek, R.C. West

COURSES

Explanation of Course Numbers

- Courses in the 1000s are primarily introductory undergraduate courses
- Those in the 2000s to 4000s are upper-division undergraduate courses that also may be taken for graduate credit with permission and additional work assigned
- Those in the 6000s and 8000s are for master's, doctoral, and professional-level students
- The 6000s are open to advanced undergraduate students with approval of the instructor and the dean or advising office
- Applied Sciences (APSC) (<http://bulletin.gwu.edu/courses/apsc/>)
- Engineering Management and Systems Engineering (<http://bulletin.gwu.edu/courses/emse/>)EMSE (<http://bulletin.gwu.edu/courses/emse/>)