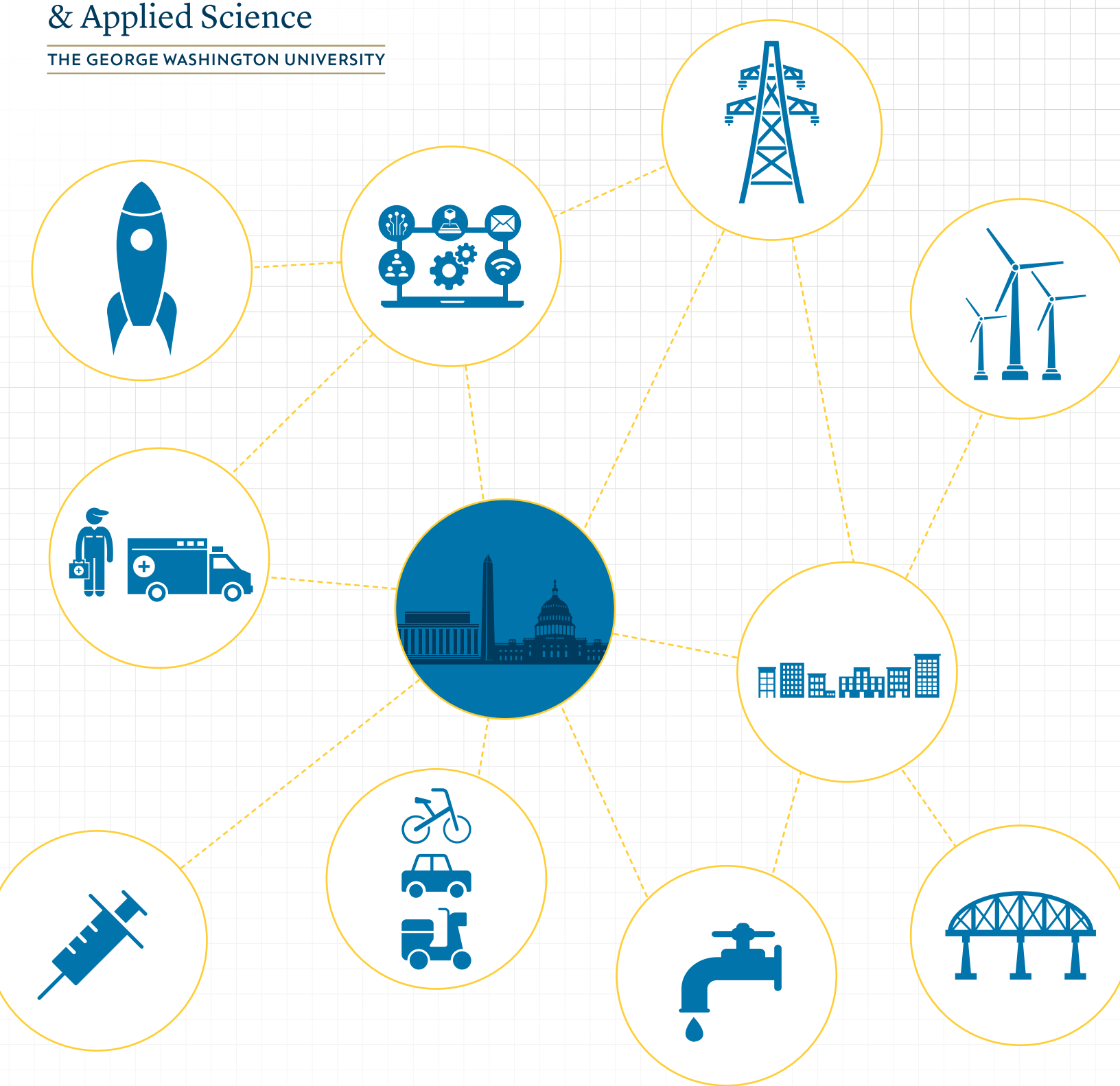
School of Engineering
& Applied Science
THE GEORGE WASHINGTON UNIVERSITY



DEPARTMENT OF ENGINEERING MANAGEMENT AND SYSTEMS ENGINEERING

ENGINEERING SOLUTIONS FOR A COMPLEX WORLD

SOLVING THE PROBLEMS THAT MATTER

At the George Washington University's Department of Engineering Management and Systems Engineering (EMSE), we tackle an extraordinary array of interesting and important challenges. From managing global supply chains and understanding the planet's climate system to investigating the spread of malicious content online, we pursue interdisciplinary, problem-driven research, seeking to understand how the parts of complex systems fit together. Alongside policymakers and technology leaders, we're developing and delivering solutions, improving decision-making and having an impact on the world around us.

DESIGNED FOR IMPACT

To solve the complex problems that cross disciplines, countries, and cultures, professional engineers must understand both the technologies being developed and the rapidly changing environments in which those technologies will be applied. At GW's EMSE department, we apply a set of rigorous analytical tools and systems-level thinking to problems, considering both the technologies and the frameworks in which they will be embedded. Combining engineering, management, business analytics and technology, we provide today's engineers, scientists, business professionals and policymakers with the skills they need to enhance management and decision-making within their organizations.

"The biggest challenges of our day - climate change, public health, infrastructure, innovation, privacy and connectivity - have systems at their root. Our faculty, students, and alumni are on the front lines developing solutions."

–Professor Zoe Szajnfarber, Chair, EMSE Department

Core Research Areas:

- **Our research addresses a diverse set of problem-driven questions with real-world impact.**

TECHNOLOGY, POLICY AND MANAGEMENT

- How do you get people to adopt low-emission vehicles?
- How do policy and regulation affect our ability to develop innovative technology?

COMPLEX SYSTEMS DESIGN AND OPERATION

- How do you design a spacecraft efficiently and well?
- How do you manage a disaster response to help the greatest number of people?

RISK, RESILIENCE AND DECISION-MAKING

- How do you balance economic and health costs in a pandemic?
- How do you tackle global climate change effectively and efficiently?

DATA AND MODELS FOR SOCIO-TECHNICAL SYSTEMS

- How do you predict the spread of flu using Twitter?
- How do you combat misinformation online?

Study With Us

Graduate Programs in Engineering Management & Systems Engineering

Whether you are already a mid-career professional in a technical field or planning a new career, an EMSE graduate degree from GW will provide you with tremendous career advantages. We offer:

- full-time and part-time graduate degrees and certificates that are applicable to practicing professionals in government, the private sector and non-profit community;
- full-time, part-time, or online graduate programs in engineering management, systems engineering, data analytics, cloud computing, cybersecurity, environmental and energy management, and emergency and risk management;
- proximity to the federal government, high-tech firms, and other major organizations in the Washington, D.C. area; and
- academic study and first-hand practical experience combined with direct exposure to decision makers and top players in this region.

Learn More:
Program and admissions information:
emse.seas.gwu.edu/graduate-programs

Apply:
graduate.seas.gwu.edu/admissions-requirements

Contact us:
engineering@gwu.edu

GW's EMSE department also offers undergraduate programs in systems engineering and applied science and technology. To learn more, visit emse.seas.gwu.edu/undergraduate-programs.

Collaborate With Us

We partner with federal agencies, non-profit organizations and businesses across the Washington, D.C. area and around the world to develop interdisciplinary solutions to complex challenges that have a real impact. For example, we work with:

- **NASA** on innovation strategies and system design principles;
- **Duke Energy Renewables** to evaluate and optimize ecosystems of energy microgrids;
- **USAID** to improve the delivery of humanitarian and development assistance;
- **D.C. Government** to improve access to household energy for low-income residents; and
- **U.S. Department of Energy** to optimize the relationships among electricity demand, prices and renewable electricity production.

Please contact us to explore research and educational collaborations.

Learn More: **emse.seas.gwu.edu/faculty-research**
emse@gwu.edu | 202-994-4892

"Attending GW gave me the opportunity to not only gain practical knowledge in the field of engineering management, but also to enhance my problem-solving and critical thinking skills while collaborating with teams and faculty with a strong work ethic and commitment to solve complex problems. It provided me with the tools to advance and succeed in my career."

–Dr. Ilka DeLuque, Energy Specialist, The World Bank

"Engineers can do so much more when we connect technical programs to societal challenges, policy, and economics. The 'engineering and...' focus of EMSE is excellent preparation. The EMSE researchers I have worked with at my federal agency have come prepared to deal with the big picture, and brought new approaches to address complex issues in the changing world."

–Dr. Jay Falker, Robotics Engineer

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