

University of Minnesota Emergency Services and Preparedness

Emergency services and preparedness assets at the University of Minnesota include the Department of Emergency Management (DEM), University of Minnesota Police Department, the Academic Health Center (AHC) Office of Emergency Response, and the Fay Thompson Center for Environmental Management. Additionally, the University of Minnesota has partnerships with several public safety entities.

DEM's primary role is to develop plans and resources to enable the University's five campuses to mitigate, prepare for, respond to and recover from disasters. DEM also coordinates the University's volunteer EMS team, which has a presence at University events. DEM maintains and operates the University's Emergency Operations Center (EOC). The EOC is activated in certain emergency situations, and serves as a resource to on-scene emergency personnel.

AHC Office of Emergency Response ensures that health emergencies affecting the University community are addressed in a timely, efficient, and effective manner.

The Fay Thompson Center for Environmental Management conducts hazardous materials work for many third party partners.

Hypersonic Research at the University of Minnesota

[Graham V. Candler](#)

*McKnight Presidential Professor, Distinguished McKnight University Professor, and Russell J. Penrose Professor, Associate Department Head
College of Science and Engineering
Department of Aerospace Engineering and Mechanics*

Professor Graham V. Candler uses computational fluid dynamics to study high-temperature reacting flows and hypersonic flows, and is particularly interested in how the relaxation of internal energy modes and finite-rate chemical reactions interact with fluid motion. Applications of this work include the analysis of planetary entry spacecraft heat shields, hypersonic boundary layer transition, and the effects of chemical reactions on aerodynamics. Dr. Candler works closely with experimentalists to validate high-enthalpy flow models by careful comparison to shock tunnel data. Recently, Candler's research group has been working to extend computational methods to complex geometries for application to future scramjet-powered hypersonic aircraft. These tools were used to design an inward-turning inlet for a upcoming sounding rocket flight experiment of a Mach 10 vehicle.

Nine occupations closely associated with technology innovation and related University of Minnesota degree programs:

Biomedical engineer: Biomedical Engineering B.Bm.E. (College of Science and Engineering); Biomedical Engineering M.S. (College of Science and Engineering); Biomedical Engineering Ph.D. (College of Science and Engineering); Biomedical Informatics and Computational Biology M.S. (The Graduate School); and Biomedical Informatics and Computational Biology Ph.D. (The Graduate School)

Chemical engineer: Chemical Engineering B.Ch.E. (College of Science and Engineering); Chemical Engineering M.Ch.E. (College of Science and Engineering); Chemical Engineering M.S.Ch.E. (College of Science and Engineering); and Chemical Engineering Ph.D. (College of Science and Engineering)

Computer and hardware engineer: Computer Engineering B.Comp.E. (College of Science and Engineering); Computer Science M.C.S. (College of Science and Engineering); Computer Science M.S. (College of Science and Engineering); and Computer Science Ph.D. (College of Science and Engineering)

Electrical engineer: Electrical Engineering B.E.E. (College of Science and Engineering); Electrical Engineering M.S.E.E. (College of Science and Engineering); and Electrical Engineering Ph.D. (College of Science and Engineering)

Materials engineer: Materials Science and Engineering B.Mat.S.E. (College of Science and Engineering); Materials Science and Engineering M.Mat.S.E. (College of Science and Engineering); Materials Science and Engineering M.S.Mat.S.E. (College of Science and Engineering); and Materials Science and Engineering Ph.D. (College of Science and Engineering)

Materials scientist: Materials Science and Engineering B.Mat.S.E. (College of Science and Engineering); Materials Science and Engineering M.Mat.S.E. (College of Science and Engineering); Materials Science and Engineering M.S.Mat.S.E. (College of Science and Engineering); and Materials Science and Engineering Ph.D. (College of Science and Engineering)

Mechanical engineer: Mechanical Engineering B.M.E. (College of Science and Engineering); Mechanical Engineering M.S.M.E. (College of Science and Engineering); and Mechanical Engineering Ph.D. (College of Science and Engineering)

Software developer (applications): Computer Science B.A. (College of Liberal Arts); Computer Science B.S. Comp.Sc. (College of Science and Engineering); Computer Science M.C.S. (College of Science and Engineering); Computer Science M.S. (College of Science and Engineering); and Computer Science Ph.D. (College of Science and Engineering)

Software developer (systems software): Computer Science B.A. (College of Liberal Arts); Computer Science B.S. Comp.Sc. (College of Science and Engineering); Computer Science M.C.S. (College of Science and Engineering); Computer Science M.S. (College of Science and Engineering); and Computer Science Ph.D. (College of Science and Engineering)

The University of Minnesota Technological Leadership Institute within the College of Science and Engineering offers three Master of Science degrees specifically designed for professionals working in technology-intensive enterprises: Master of Science in Management of Technology, Master of Science in Medical Device Innovation and Master of Science in Security Technologies.

Graduate minors are: Minor in Cyber Security, Minor in Management of Technology and Minor in Security Technologies.