

**Degree Programs, Emphasis Areas, Minors and Certificates**  
**Missouri University of Science and Technology**

(Degree programs are in capitals. Emphasis areas are lower case subheads followed by degree abbreviation if restricted to that degree.)  
as of 09/15/2016

AEROSPACE ENGINEERING (BS, MS, PhD) MI  
APPLIED AND ENVIRONMENTAL BIOLOGY (MS)  
APPLIED MATHEMATICS (BS, MS) MI  
    Actuarial Science (BS)  
    Algebra (MS)  
    Algebra/Discrete Mathematics (BS)  
    Applied Analysis  
    Computational Mathematics  
    Secondary Education (BS)  
    Statistics  
ARCHITECTURAL ENGINEERING (BS)  
    Construction Eng & Project Mgt  
    Construction Materials  
    Environmental Systems for Buildings  
    Structural Engineering  
BIOLOGICAL SCIENCES (BA, BS) MI  
    Pre-Medicine (BA)  
    Secondary Education (BA)  
BUSINESS ADMINISTRATION (MBA)  
BUSINESS AND MANAGEMENT SYSTEMS (BS)  
    E-commerce  
    Enterprise Resource Planning  
    Finance  
    Human Computer Interaction  
    Management Information Systems  
    Marketing  
CERAMIC ENGINEERING (BS, MS, PhD)  
    Biomaterials (MS)  
CHEMICAL ENGINEERING (BS, MS, PhD, DE)  
    Biochemical Engineering (BS)  
CHEMISTRY (BA, BS, MS, MST, PhD) MI  
    Biochemistry (BS)  
    Polymer & Coatings Science (BS)  
    Pre-Medicine (BS)  
    Secondary Education (BA)  
CIVIL ENGINEERING (BS, MS, PhD, DE)  
    Construction Engineering  
    Environmental Engineering  
    Geotechnical Engineering  
    Materials Engineering  
    Structural Engineering  
    Transportation Engineering  
    Water Resources Engineering  
COMPUTER ENGINEERING (BS, MS, PhD) MI  
    Computational Intelligence (BS)  
    Computers and Architecture (BS)  
    Embedded Computer Systems (BS)  
    Integrated Circuits and Logic Design (BS)  
    Networking and Software Engineering (BS)  
    Security and Reliability (BS)  
COMPUTER SCIENCE (BS, MS, PhD) MI  
    Critical Infrastructure Protection (MS)  
    Software Engineering (MS)  
ECONOMICS (BA, BS) MI  
    Economics/Business (BS)  
    Secondary Education (BA)  
ELECTRICAL ENGINEERING (BS, MS, PhD, DE) MI  
    Circuits and Electronics  
    Communications and Signal Processing  
    Computer Engineering  
    Controls and Systems  
    Electromagnetics  
    Optics and Devices  
    Power and Energy  
    Solar Energy (MS)  
ENGINEERING MANAGEMENT (BS, MS, PhD) MI  
    Industrial Engineering (BS)  
    Management of Technology (BS)  
    Manufacturing Engineering (BS)  
    Packaging Engineering (BS)  
    Public Works (MS)  
    Quality Engineering (BS)  
ENGLISH (BA)  
    Secondary Education  
ENVIRONMENTAL ENGINEERING (BS, MS)  
EXPLOSIVES ENGINEERING (MS, PhD) MI  
GEOLOGICAL ENGINEERING (BS, MS, PhD, DE) MI  
    Engineering Geology and Geotechnics (BS)  
    Environ Protect & Haz Waste Mgt (BS)  
    Groundwater Hydro & Contaminant Transport (BS)  
    Petroleum, Energy and Natural Resources (BS)  
    Quarry Engineering (BS)  
    Hazardous Waste Engineering & Science (MS)  
GEOLOGY AND GEOPHYSICS (BS, MS, PhD)  
    Exploration Geochemistry (MS, PhD)  
    Exploration Geophysics (MS, PhD)  
    Geochemistry (BS)  
    Geology (BS)  
    Geophysics (BS)  
    Groundwater & Environmental Geochemistry (BS)  
    Petroleum Geology (BS)  
GEOTECHNICS (ME)  
HISTORY (BA, BS) MI  
    Secondary Education  
INDUSTRIAL ORGANIZATIONAL PSYCHOLOGY (MS)  
INFORMATION SCIENCE & TECHNOLOGY (BS, MS) MI  
    Enterprise Resource Planning  
    Human Computer Interaction (BS)  
MANUFACTURING ENGINEERING (MS, ME)  
MATERIALS SCIENCE AND ENGINEERING (MS, PhD)  
MATHEMATICS (MST, PhD) MI  
    Computational and Applied Mathematics (PhD)  
    Statistics (PhD)  
MECHANICAL ENGINEERING (BS, MS, PhD, DE)  
    Control Systems  
    Energy Conversion  
    Environmental Systems  
    Instrumentation  
    Manufacturing Processes  
    Materials Science  
    Mechanical Design and Analysis  
    Thermal Science  
METALLURGICAL ENGINEERING (BS, MS, PhD)  
    Chemical Metallurgy (BS)  
    Manufacturing Metallurgy (BS)  
    Physical Metallurgy (BS)  
MINING ENGINEERING (BS, MS, ME, PhD, DE) MI  
    Coal (BS)  
    Explosives Engineering (BS)  
    Mining & the Environment (BS)  
    Mining Health and Safety (BS)  
    Quarry Engineering (BS)  
    Sustainable Development (BS)  
MULTIDISCIPLINARY STUDIES (BA)  
NUCLEAR ENGINEERING (BS, MS, PhD, DE) MI  
PETROLEUM ENGINEERING (BS, MS, PhD, DE) MI  
PHILOSOPHY (BS) MI  
PHYSICS (BS, MS, MST, PhD) MI  
    Applied Physics (BS)  
    Geophysics (BS)  
    Secondary Education (BS)  
PSYCHOLOGY (BA,BS) MI  
    Cognitive Neuroscience  
    Human Resources/Personnel  
    Human Services  
    Psychology of Leadership  
    Secondary Education (BA, BS)  
    Usability of Technology  
SYSTEMS ENGINEERING (MS, PhD)  
TECHNICAL COMMUNICATION (BS, MS) MI

## MINORS

(In addition to those designated MI on previous page)

Adaptive Leadership	Finance	Multiculturalism & Diversity
American Studies	French	Music
Art	Geology	Philosophy of Technology
Automation Engineering	German	Political Science
Bioinformatics	Global Studies	Pre-Law
Biomedical Engineering	Global Sustainable Economics	Pre-MBA
Business	Human-Computer Interaction & User Experience	Pre-Medicine
Business Analytics & Data Science	Humanitarian Engineering and Science	Psychology of Leadership
Cognitive Neuroscience	Ind/Organizational Psych	Psychometrics
Communication Studies	International Economics	Russian
Creative Writing	Leadership Communication	Science, Technology & Humanity
Digital Supply Chain Management	Literature	Sociology
Electronic and Social Commerce	Literature and Film	Spanish
Energy Technology	Management	Studio Art
Enterprise Resource Planning	Marketing	Sustainability
Entrepreneurship	Military Aerospace Studies	Technical Communication*
Ethics	Mineral Process Engineering	Theatre
Explosives Engineering *	Mobile Business and Technology	Writing
Film and Literature		

\* Indicates undergraduate & graduate level minor  
Updated 05/03/2016

## UNDERGRADUATE CERTIFICATES

### Certificate

Explosives Engineering  
Explosives Technology  
Technical Writing

### Discipline

Mining & Nuclear Engineering  
Mining & Nuclear Engineering  
Technical Communication

Updated 10/25/2012

## GRADUATE CERTIFICATES

### Certificates

Actuarial Science  
Big Data Management and Analytics  
Big Data Management and Security  
Business Analytics and Data Science  
Business Essentials  
Business Intelligence  
Business Project Management  
CAD/CAM and Rapid Product Realization  
Composite Materials and Structures  
Computational Intelligence  
Contemporary Structural Engineering  
Control Systems  
Digital Media  
Digital Supply Chain Management  
Electric Machine and Drives  
Electrical Power Systems Engineering  
Electronic and Social Commerce  
Energy Conversion and Transport  
Engineering Management  
Engineering Mechanics  
Enterprise Resource Planning  
Entrepreneurship and Technological Innovation  
Explosives Engineering  
Explosives Technology  
Financial Engineering  
Financial Mathematics  
Geoenvironmental Engineering  
Geotechnical Earthquake Engineering  
Geotechnics  
Human-Computer Interaction and User Experience  
Human Systems Integration  
Information Assurance & Security Officer Essentials  
Information System Project Management  
Information Systems and Cloud Computing  
Infrastructure Renewal  
Leadership in Engineering Organizations  
Lean Six Sigma  
Management and Leadership  
Management for Sustainable Business  
Manufacturing Automation  
Manufacturing Systems

### Discipline

Mathematics  
Computer Science  
Computer Science  
Information Science & Technology  
Business Administration  
Business Administration  
Information Science & Technology  
Manufacturing Engineering  
Aerospace Engineering/Mechanical Engineering  
Systems Engineering/Computer Engineering/Computer Science  
Civil Engineering  
Mechanical Engineering  
Information Science & Technology  
Information Science & Technology  
Electrical Engineering  
Electrical Engineering  
Information Science & Technology  
Aerospace Engineering/Mechanical Engineering  
Engineering Management  
Aerospace Engineering/Mechanical Engineering  
Information Science & Technology  
Business Administration  
Mining Engineering  
Mining Engineering  
Engineering Management/Systems Engineering  
Mathematics  
Civil Engineering  
Civil Engineering  
Geotechnics  
Information Science & Technology  
Engineering Management/Information Science & Technology  
Computer Engineering/Computer Science  
Information Science & Technology  
Computer Science  
Civil Engineering  
Engineering Management/Psychology  
Engineering Management  
Business Administration  
Economics  
Mechanical Engineering  
Manufacturing Engineering

Military Construction Management  
Military Geological Engineering  
Mining Engineering  
Mobile Business and Technology  
Model Based Systems Engineering  
Network Centric Systems  
Project Engineering and Construction Management  
Project Management  
Psychology of Leadership  
Psychometrics  
Safety Engineering  
Software Design and Development  
Statistics  
Systems Engineering  
Systems and Software Architecture  
Technical Communication  
Wireless Networks and Mobile Systems

Engineering Management  
Geological Engineering  
Mining Engineering  
Information Science & Technology  
Systems Engineering  
Computer Engineering/Systems Engineering  
Civil Engineering/Engineering Management  
Engineering Management  
Information Science & Technology/Psychology  
Mathematics/Psychology  
Chemical and Biochemical Engineering/Engineering Management  
Computer Science  
Mathematics and Statistics  
Systems Engineering  
Computer Science  
Technical Communication  
Computer Science

Updated 04/01/2016

### **TEACHER CERTIFICATION PROGRAMS**

Secondary Education Certification  
- Applied Mathematics BS  
- Biological Sciences BA  
- Chemistry BA  
- Economics BA  
- English BA  
- History BA  
- Physics BS  
- Psychology BA, BS

Elementary Education Certification  
-Multidisciplinary Studies BA

Updated 02/04/2015