

**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 03/09/2018

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  
    Computer Architecture and Embedded Systems  
    Integrated Circuits and Logic Design  
    Networking, Security, and Dependability  
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  
EXPLOSIVES TECHNOLOGY (MS)  
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 (BA)  
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	Financial Technology	Music
Art	French	Philosophy of Technology
Artificial Intelligence and Machine Learning in Business	Game Studies	Political Science
Automation Engineering	Geology	Pre-Law
Bioinformatics	German	Pre-MBA
Biomedical Engineering	Global Studies	Pre-Medicine
Business	Global Sustainable Economics	Psychology for Health Care
Business Analytics & Data Science	Human-Computer Interaction & User Experience	Psychology of Leadership
Business Applications and Software Development	Humanitarian Engineering and Science	Psychometrics
Cognitive Neuroscience	Ind/Organizational Psych	Russian
Communication Studies	International Economics	Science, Technology & Humanity
Creative Writing	Latin American Studies for Technical Applications	Social Media in Industry
Cybersecurity Management and Information Assurance	Leadership Communication	Sociology
Digital Supply Chain Management	Linguistics	Spanish
Electronic and Social Commerce	Literature	Studio Art
Energy Technology	Literature and Film Management	Sustainability
Enterprise Resource Planning	Marketing	Technical Communication*
Entrepreneurship	Military Aerospace Studies	Theatre
Ethics	Mineral Process Engineering	Writing
Explosives Engineering *	Mobile Business and Technology	
Film and Literature		

\* Indicates undergraduate & graduate level minor  
Updated 05/09/2018

## 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  
Advanced Control Systems  
AI, Machine Learning and Automation in Business  
Applied Workplace Psychology  
Automation Engineering and PLC  
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  
Cyber Security  
Cybersecurity and Information Assurance Management  
Digital Media and Web Design  
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  
Finance  
Financial Engineering  
Financial Mathematics  
Financial Technology  
Geoenvironmental Engineering

### Discipline

Mathematics  
Electrical Engineering  
Information Science and Technology  
Psychology  
Electrical Engineering  
Computer Science  
Computer Science  
Information Science & Technology  
Business Administration  
Information Science & Technology  
Business Administration  
Manufacturing Engineering  
Aerospace Engineering/Mechanical Engineering  
Systems Engineering/Computer Engineering/Computer Science  
Civil Engineering  
Mechanical Engineering  
Computer Science  
Information Science and Technology  
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  
Explosives Engineering  
Explosives Engineering  
Business Administration  
Engineering Management/Systems Engineering  
Mathematics  
Business Administration  
Civil 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  
 Lean Six Sigma  
 Management and Leadership  
 Management for Sustainable Business  
 Manufacturing Automation  
 Manufacturing Systems  
 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  
 Safety Engineering  
 Software Design and Development  
 Statistical Methods in Psychology  
 Statistics  
 Systems Engineering  
 Systems and Software Architecture  
 Technical Communication  
 Wireless Networks and Mobile Systems

Civil Engineering  
 Geotechnics  
 Information Science & Technology  
 Engineering Management/Information Science & Technology  
 Computer Engineering/Computer Science  
 Information Science & Technology  
 Computer Science  
 Civil Engineering  
 Engineering Management  
 Business Administration  
 Economics  
 Mechanical Engineering  
 Manufacturing Engineering  
 Engineering Management  
 Geological Engineering  
 Mining Engineering  
 Information Science & Technology  
 Systems Engineering  
 Computer Engineering/Systems Engineering  
 Civil Engineering/Engineering Management  
 Engineering Management  
 Chemical and Biochemical Engineering/Engineering Management  
 Computer Science  
 Mathematics and Statistics/Psychology  
 Mathematics and Statistics  
 Systems Engineering  
 Computer Science  
 Technical Communication  
 Computer Science

Updated 04/30/2018

### **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