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 07/30/2021

AEROSPACE ENGINEERING (BS, MS, PhD) MI
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, MS) MI
Medical Laboratory Scientist (BS)
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
Secondary Education
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)
EDUCATION (BS)
Elementary
Middle School Language Arts
Middle School Math
Middle School Science
Middle School Social Studies
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 AND TECHNICAL COMMUNICATION (BS)
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
Systems Integration
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
Cognition and Neuroscience
Diversity and Inclusion (BA)
Health Psychology
Human Factors
Industrial Organizational Psychology
Secondary Education (BA, BS)
MINORS
(In addition to those designated MI on previous page)

Adaptive Leadership
American Studies
Art
Artificial Intelligence and Machine Learning in Business
Automation Engineering
Bioinformatics
Biomedical Engineering
Business
Business Analytics & Data Science
Business Applications and Software Development
Cognitive Neuroscience
Communication Studies
Construction Engineering & Management
Creative Writing
Cybersecurity Management and Information Assurance
Digital Supply Chain Management
Electronic and Social Commerce
Energy Technology
Enterprise Resource Planning
Entrepreneurship
Ethics
Explosives Engineering *
Film and Literature *

Finance
Financial Technology, Analytics and Transformation
French
Game Studies
Geology
German
Global Studies
Global Sustainable Economics
Human-Computer Interaction & User Experience
Human Factors Psychology
Ind/Organizational Psych
International Economics
Latin American Studies for Technical Applications
Leadership Communication
Linguistics
Literature
Literature and Film
Management
Marketing
Military Aerospace Studies
Mineral Process Engineering
Mobile Business and Technology
Multiculturalism & Diversity
Music
Philosophy of Technology
Political Science
Pre-Law
Pre-MBA
Pre-Medicine
Psychology for Health Care
Psychology of Leadership
Psychometrics
Russian
Science, Technology & Humanity
Social Media in Industry
Sociology
Spanish
Studio Art
Sustainability
Technical Communication *
Theatre
Writing

* Indicates undergraduate & graduate level minor

UNDERGRADUATE CERTIFICATES

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Discipline</th>
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<tbody>
<tr>
<td>Automation Engineering</td>
<td>Electrical Engineering</td>
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<tr>
<td>Bioinnovation</td>
<td>Biological Sciences</td>
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<tr>
<td>Explosives Engineering</td>
<td>Mining Engineering</td>
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<tr>
<td>Explosives Technology</td>
<td>Mining Engineering</td>
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<tr>
<td>Logic and the Philosophical Foundations of STEM</td>
<td>Philosophy</td>
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<tr>
<td>Medieval and Renaissance Studies</td>
<td>History</td>
</tr>
<tr>
<td>Professional Ethics and Moral Reasoning</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Science, Technology, and Society</td>
<td>History</td>
</tr>
<tr>
<td>Teaching and Learning</td>
<td>Teacher Education and Certification</td>
</tr>
<tr>
<td>Technical Writing</td>
<td>Technical Communication</td>
</tr>
<tr>
<td>Technology, Philosophy, and Ethical Futures</td>
<td>Philosophy</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Certificates</th>
<th>Discipline</th>
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<tbody>
<tr>
<td>Actuarial Science</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Advanced Control Systems</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>Advanced Engineering Materials</td>
<td>Materials Science and Engineering</td>
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<tr>
<td>Advanced Materials for Sustainable Infrastructure</td>
<td>Civil Engineering</td>
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<tr>
<td>Aggregates Management</td>
<td>Mining Engineering</td>
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<tr>
<td>AI, Machine Learning and Automation in Business</td>
<td>Information Science &amp; Technology</td>
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<tr>
<td>Applied Workplace Psychology</td>
<td>Psychology</td>
</tr>
<tr>
<td>Automation Engineering and PLC</td>
<td>Electrical Engineering</td>
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<tr>
<td>Big Data Management and Analytics</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Big Data Management and Security</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Building Systems Engineering</td>
<td>Civil Engineering</td>
</tr>
<tr>
<td>Business Analytics and Data Science</td>
<td>Information Science &amp; Technology</td>
</tr>
<tr>
<td>Business Essentials</td>
<td>Business Administration</td>
</tr>
<tr>
<td>Business Intelligence</td>
<td>Information Science &amp; Technology</td>
</tr>
<tr>
<td>Business Project Management</td>
<td>Business Administration</td>
</tr>
<tr>
<td>CAD/CAM and Rapid Product Realization</td>
<td>Manufacturing Engineering</td>
</tr>
<tr>
<td>Chemical Process Engineering</td>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>Composite Materials and Structures</td>
<td>Aerospace Engineering/Mechanical Engineering</td>
</tr>
<tr>
<td>Computational Intelligence</td>
<td>Systems Engineering/Computer Engineering/Computer Science</td>
</tr>
<tr>
<td>Contemporary Structural Engineering</td>
<td>Civil Engineering</td>
</tr>
</tbody>
</table>
Control Systems, Mechanical Engineering
Cyber Physical Systems, Computer Engineering/Systems Engineering
Cyber Security, Computer Science
Cybersecurity and Information Assurance Management, Information Science and Technology
Digital Media and Web Design, Information Science & Technology
Digital Supply Chain Management, Information Science & Technology
Electric Machine and Drives, Electrical Engineering
Electrical Power Systems Engineering, Electrical Engineering
Electronic and Social Commerce, Information Science & Technology
Energy Conversion and Transport, Aerospace Engineering/Mechanical Engineering
Engineering Management, Engineering Management
Engineering Mechanics, Aerospace Engineering/Mechanical Engineering
Enterprise Resource Planning, Information Science & Technology
Explosives Engineering, Explosives Engineering
Explosives Technology, Explosives Engineering
Finance, Business Administration
Financial Engineering, Engineering Management/Systems Engineering
Financial Mathematics, Mathematics
Financial Technology, Business Administration
Geoanalytics and Geointelligence, Geological Engineering
Geoenvironmental Engineering, Civil Engineering
Geoenvironmental Science and Engineering, Geological Engineering and Geology and Geophysics
Geologic Hazards, Geological Engineering
Geophysics, Geology and Geophysics
Geotechnical Earthquake Engineering, Civil Engineering
Geotechnics, Geotechnics
Human-Computer Interaction and User Experience, Information Science & Technology
Human Systems Integration, Information Science & Technology
Information Assurance & Security Officer Essentials, Computer Engineering/Computer Science
Information System Project Management, Computer Science
Information Systems and Cloud Computing, Computer Science
Infrastructure Renewal, Civil Engineering
Iron and Steel Metallurgy, Metallurgical Engineering
Lean Six Sigma, Engineering Management
Management and Leadership, Business Administration
Management for Sustainable Business, Economics
Manufacturing Automation, Mechanical Engineering
Manufacturing Systems, Manufacturing Engineering
Materials for Extreme Environments, Materials Science and Engineering
Military Construction Management, Engineering Management
Military Geological Engineering, Geological Engineering
Mine Reclamation, Mining Engineering
Mining Engineering, Mining Engineering
Mining Project Evaluation, Mining Engineering
Mobile Business and Technology, Information Science & Technology
Model Based Systems Engineering, Systems Engineering
Nuclear Nonproliferation, Nuclear Engineering
Petroleum Systems, Geology and Geophysics
Project Engineering and Construction Management, Engineering Management
Project Management, Chemical and Biochemical Engineering/Engineering Management
Safety Engineering, Computer Science
Software Design and Development, Geological Engineering
Space Resources, Mathematics and Statistics
Statistical Methods in Psychology, Mathematics and Statistics
Statistics, Mathematics and Statistics
Subsurface Water Resources, Geological Engineering
Surface Water Resources, Civil Engineering
Sustainability in Mining, Mining Engineering
Systems Engineering, Systems Engineering
Systems and Software Architecture, Computer Science
Technical Communication, Technical Communication
Wireless Networks and Mobile Systems, Computer Science

**TEACHER CERTIFICATION PROGRAMS**

- Elementary Education Certification
  - Elementary Education BS
- Middle School Education Certification
  - Elementary Education BS
  - Middle School Language Arts
  - Middle School Math
  - Middle School Science
  - Middle School Social Studies
- Secondary Education Certification
  - Applied Mathematics BS
  - Biological Sciences BA
  - Business and Management Systems BS
  - Chemistry BA
  - Economics BA
  - History BA
  - Physics BS
  - Psychology BA, BS

*Updated 07/30/2021*