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 06/24/2022

AEROSPACE ENGINEERING (BS, MS, PhD) MI
APPLIED MATHEMATICS (BS, MS) MI
  Actuarial Science (BS)
  Algebra (MS)
  Algebra/Discrete Mathematics (BS)
  Applied Analysis
  Computational Mathematics
  Data Science and Statistics (BS)
  Secondary Education (BS)
  Statistics (MS)
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)
  Early Childhood Education (pre K-3)
  Educational Studies
  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)
ENVIRONMENTAL SCIENCES (BS)
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 Geochimistry (MS, PhD)
  Exploration Geophysics (MS, PhD)
  Geochemistry (BS)
  Geology (BS)
  Geophysics (BS)
  Groundwater & Environmental Geochimistry (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)
  French Language and French Speaking Cultures
  Spanish Language and Spanish Speaking Cultures
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)
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/Organization 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
Russian
Science, Technology & Humanity
Social Media in Industry
Sociology
Spanish
Studio Art
Sustainability
Technical Communication*
Theatre
Writing

* Indicates undergraduate & graduate level minor

### UNDERGRADUATE CERTIFICATES

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<th>Certificate</th>
<th>Discipline</th>
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<td>Automation Engineering</td>
<td>Electrical Engineering</td>
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<td>Bioinnovation</td>
<td>Biological Sciences</td>
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<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>Intercultural Studies</td>
<td>Multidisciplinary Studies</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>
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<tr>
<td>Military and Security Studies</td>
<td>History</td>
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<tr>
<td>Professional Ethics and Moral Reasoning</td>
<td>Philosophy</td>
</tr>
<tr>
<td>Science, Technology, and Society</td>
<td>History</td>
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<tr>
<td>Teaching and Learning</td>
<td>Teacher Education and Certification</td>
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<tr>
<td>Technical Writing</td>
<td>Technical Communication</td>
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<tr>
<td>Technology, Philosophy, and Ethical Futures</td>
<td>Philosophy</td>
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<tr>
<td>War and Society</td>
<td>History</td>
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### GRADUATE CERTIFICATES

<table>
<thead>
<tr>
<th>Certificates</th>
<th>Discipline</th>
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<tbody>
<tr>
<td>Actuarial Science</td>
<td>Mathematics</td>
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<tr>
<td>Advanced Control Systems</td>
<td>Electrical Engineering</td>
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<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>
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<tr>
<td>Automation Engineering and PLC</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>Big Data Management and Analytics</td>
<td>Computer Science</td>
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<tr>
<td>Big Data Management and Security</td>
<td>Computer Science</td>
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<tr>
<td>Building Systems Engineering</td>
<td>Civil Engineering</td>
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<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>
</tbody>
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Updated 06/24/2022
TEACHER CERTIFICATION PROGRAMS

Elementary Education Certification
- Education (BS)
  - Early Childhood Education (pre K-3)
  - Educational Studies
  - Elementary

Middle School Education Certification
- 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
- English BA
- History BA
- Physics BS
- Psychology BA, BS

Updated 06/24/2022