

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 08/18/2022

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 (BA)
 Secondary Education
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 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)
 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)

PSYCHOLOGY (BA,BS) MI
 Cognition and Neuroscience
 Diversity and Inclusion (BA)
 Health Psychology
 Human Factors
 Industrial Organizational Psychology
 Secondary Education (BA, BS)

SYSTEMS ENGINEERING (MS, PhD)
 TECHNICAL COMMUNICATION (MS) MI
 WATER SCIENCE AND ENGINEERING (MS)

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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
 Russian
 Science, Technology & Humanity
 Social Media in Industry
 Sociology
 Spanish
 Studio Art
 Sustainability
 Technical Communication*
 Theatre
 Writing

* Indicates undergraduate & graduate level minor
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UNDERGRADUATE CERTIFICATES

Certificate

Automation Engineering
 Bioinnovation
 Explosives Engineering
 Explosives Technology
 Intercultural Studies
 Logic and the Philosophical Foundations of STEM
 Medieval and Renaissance Studies
 Military and Security Studies
 Professional Ethics and Moral Reasoning
 Science, Technology, and Society
 Teaching and Learning
 Technical Writing
 Technology, Philosophy, and Ethical Futures
 War and Society

Discipline

Electrical Engineering
 Biological Sciences
 Mining Engineering
 Mining Engineering
 Multidisciplinary Studies
 Philosophy
 History
 History
 Philosophy
 History
 Teacher Education and Certification
 Technical Communication
 Philosophy
 History

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GRADUATE CERTIFICATES

Certificates

Actuarial Science
 Advanced Control Systems
 Advanced Engineering Materials
 Advanced Materials for Sustainable Infrastructure
 Aggregates Management
 AI, Machine Learning and Automation in Business
 Applied Workplace Psychology
 Automation Engineering and PLC
 Big Data Management and Analytics
 Big Data Management and Security
 Building Systems Engineering
 Business Analytics and Data Science
 Business Essentials

Discipline

Mathematics
 Electrical Engineering
 Materials Science and Engineering
 Civil Engineering
 Mining Engineering
 Information Science & Technology
 Psychology
 Electrical Engineering
 Computer Science
 Computer Science
 Civil Engineering
 Information Science & Technology
 Business Administration

Business Intelligence	Information Science & Technology
Business Project Management	Business Administration
CAD/CAM and Rapid Product Realization	Manufacturing Engineering
Carbon Management Engineering	Chemical Engineering
Chemical Process Engineering	Chemical Engineering
Composite Materials and Structures	Aerospace Engineering/Mechanical Engineering
Computational Intelligence	Systems Engineering/Computer Engineering/Computer Science
Contemporary Structural Engineering	Civil Engineering
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
Entrepreneurship and Technological Innovation	Business Administration
Explosives Engineering	Explosives Engineering
Explosives Technology	Explosives Engineering
Finance	Business Administration
Financial Engineering	Engineering Management/Systems Engineering
Financial Mathematics	Mathematics
Financial Technology	Business Administration
Foundations of Supply Chain Integration Systems	Engineering Management
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 Factors Psychology	Psychology
Human Systems Integration	Engineering Management/Information Science & Technology
Information Assurance & Security Officer Essentials	Computer Engineering/Computer Science
Information System Project Management	Information Science & Technology
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
Modeling and Simulation for Decision Systems	Engineering Management
Nuclear Nonproliferation	Nuclear Engineering
Petroleum Systems	Geology and Geophysics
Project Engineering and Construction Management	Civil Engineering/Engineering Management
Project Management	Engineering Management
Safety Engineering	Chemical and Biochemical Engineering/Engineering Management
Software Design and Development	Computer Science
Space Resources	Geological Engineering
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
Systems of Human Capital Management	Engineering Management
Technical Communication	Technical Communication
Wireless Networks and Mobile Systems	Computer Science

TEACHER CERTIFICATION PROGRAMS

Elementary Education Certification

- Education (BS)
- Early Childhood Education (pre K-3)
- 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

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