Obtain two graduate certificates and your master’s in Systems Engineering

At Missouri S&T, it is possible to obtain two graduate certificates as part of your master’s degree track in Systems Engineering. The sequence of required course curriculum in each emphasis area is listed below.

**CYBER PHYSICAL SYSTEMS EMPHASIS**

SYS ENG 5101 Systems Engineering and Analysis  
SYS ENG 6102 Information Based Design  
SYS ENG 6103 Systems Life Cycle Costing  
SYS ENG 6104 Systems Architecting  
**Receive Systems Engineering Graduate Certificate**  
SYS ENG 6321 Modeling Complex Systems  
COMP ENG 5410 Introduction to Computer Communication Networks  
SYS ENG 5323 Wireless Networks  
SYS ENG 6322 Resilient Networks  
**Receive Network Centric Graduate Certificate**  
SYS ENG 6542 Model Based Systems Engineering  
SYS ENG 6196 Systems Engineering Capstone  
**Receive Master of Science in Systems Engineering**

**ENGINEERING MANAGEMENT EMPHASIS**

SYS ENG 5101 Systems Engineering and Analysis  
SYS ENG 6102 Information Based Design  
SYS ENG 6103 Systems Life Cycle Costing  
SYS ENG 6104 Systems Architecting  
**Receive Systems Engineering Graduate Certificate**  
ENG MGT 5320 Project Management  
ENG MGT 5111 Management for Engineers  
ENG MGT 6211 Advanced Financial Management  
ENG MGT 5412 Operations Management Science  
**Receive Engineering Management Graduate Certificate**  
SYS ENG 6196 Systems Engineering Capstone  
SYS ENG 6542 Model Based Systems Engineering  
**Receive Master of Science in Systems Engineering**

**PROJECT MANAGEMENT EMPHASIS**

SYS ENG 5101 Systems Engineering and Analysis  
SYS ENG 6102 Information Based Design  
SYS ENG 6103 Systems Life Cycle Costing  
SYS ENG 6104 Systems Architecting  
**Receive Systems Engineering Graduate Certificate**  
ENG MGT 5320 Project Management  
ENG MGT 6322 Case Studies in Project Management  
ENG MGT 6323 Global Project Management  
ENG MGT Elective: Contact your advisor(s) for alternative course  
**Receive Project Management Graduate Certificate**  
SYS ENG 6196 Systems Engineering Capstone  
SYS ENG 6542 Model Based Systems Engineering  
**Receive Master of Science in Systems Engineering**
SYSTEMS ENGINEERING GRADUATE PROGRAMS FOR WORKING PROFESSIONALS

FINANCIAL ENGINEERING EMPHASIS

SYS ENG 5101 Systems Engineering and Analysis
SYS ENG 6102 Information Based Design
SYS ENG 6103 Systems Life Cycle Costing
SYS ENG 6104 Systems Architecting
Receive Systems Engineering Graduate Certificate

ENG MGT 6212 Investment
ENG MGT 6213 Financial Engineering
ENG MGT 6214 Financial Engineering II
ENG MGT 6215 Financial Risk Management
Receive Financial Engineering Graduate Certificate

SYS ENG 6196 Systems Engineering Capstone
SYS ENG 6542 Model Based Systems Engineering
Receive Master of Science in Systems Engineering

COMPUTATIONAL INTELLIGENCE ENGINEERING EMPHASIS

SYS ENG 5101 Systems Engineering and Analysis
SYS ENG 6102 Information Based Design
SYS ENG 6103 Systems Life Cycle Costing
SYS ENG 6104 Systems Architecting
Receive Systems Engineering Graduate Certificate

SYS ENG 5211 Computational Intelligence
SYS ENG 5212 Introduction to Neural Networks and Applications S
YS ENG 6213 Deep Learning and Advanced Neural Networks
SYS ENG Elective: Contact your advisor(s) for alternative course
Receive Computational Intelligence Engineering Graduate Certificate

SYS ENG 6196 Systems Engineering Capstone
SYS ENG 6542 Model Based Systems Engineering
Receive Master of Science in Systems Engineering

MODEL BASED SYSTEMS ENGINEERING EMPHASIS

SYS ENG 5101 Systems Engineering and Analysis
SYS ENG 6102 Information Based Design
SYS ENG 6103 Systems Life Cycle Costing
SYS ENG 6104 Systems Architecting
Receive Systems Engineering Graduate Certificate

SYS ENG 6239 Smart Engineering System Design
SYS ENG 6110 Risk Modeling and Optimization under Uncertainty
SYS ENG 6412 Mathematical Programming

SYS ENG Elective: Contact your advisor(s) for alternative course
Receive Model Based Systems Engineering Graduate Certificate

SYS ENG 6196 Systems Engineering Capstone
SYS ENG 6542 Model Based Systems Engineering
Receive Master of Science in Systems Engineering

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