

***Societal Risk Management (SRM) Faculty
Department of Civil and Environmental Engineering
University of Illinois at Urbana-Champaign***

Recommendations for 11-month M.S. Program in Societal Risk Management

The listings below highlight courses that the Societal Risk Management (SRM) Faculty deem appropriate for students interested in completing their M.S. degree in eleven months (without a thesis), versus the standard one-and-a-half to two year M.S. degree (with or without thesis.) The courses shown below will *usually* be offered in the semesters shown (changes may occur in some years.) Note that only few courses are typically available over the summer. Therefore, students should plan on taking only one course over the summer. The degree may also be completed in nine months if five courses are taken in one semester (such a course-load would be very demanding and is not normally recommend.)

As with all degree program decisions, please coordinate with your faculty advisor for confirmation about course selection, course availability, and degree program options.

Fall (take three or four)	Spring (take three or four)	Summer (take one or two)
<i>GE 450 Decision Analysis I</i>	<i>CEE 498 SRM Societal Risk Management</i>	Elective course
<i>CEE 491 Decision and Risk Analysis</i>	Elective course	
Elective course	Elective course	
Elective course	Elective course	

The core courses shown in italics are required. Students should select the remaining elective courses in consultation with their advisor to create an organized plan leading to the desired specialization as well as program breadth. In addition to advanced courses in CEE, a variety of courses are available across campus that are related to societal risk management that can be used to partially fulfill the remaining required credit hours. Examples of elective courses that students might choose can be found below (note that some courses have specific prerequisites.)

A total of 36 credits are required for the M.S. degree with no thesis. A minimum of three 5xx courses (12 credits) must be taken in total.

For questions, please contact:

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or

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Examples of Elective Courses

Natural and Man-made Hazards

- ATMS 421 Earth Systems Modeling
- CHLH 421 Health Data Analysis
- CHLH 469 Environmental Health
- GEOL 454 Introduction to Seismology
- GEOL 470 Introduction to Hydrogeology
- GEOL 552 Geodynamics
- GEOL 571 Contaminant Fate and Transport
- GEOG 575 Alluvial Boundary Layer Dynamics
- NPRE 457 Safety Analysis Nuclear Reactor Systems
- NRES 403 Watersheds and Water Quality

Architecture and Urban Planning

- ARCH 538 Econ Issues in Arch Develop
- ARCH 544 Building Systems & Design Integration
- ARCH 545 Design & Constructability
- ARCH 556 Advanced Structural Planning
- ARCH 596 Spec Prob Housing Env
- LA 441 Land Resource Evaluation
- UP 405 Watershed Ecology and Planning
- UP 438 Disasters and Urban Planning
- UP 546 Land Use Policy and Planning

Infrastructure and Operations

- CEE 401 Concrete Materials
- CEE 405 Asphalt Materials I
- CEE 406 Pavement Design
- CEE 408 Railroad Transportation Engineering
- CEE 409 Railroad Track Engineering
- CEE 411 RR Project Design & Constr
- CEE 416 Traffic Capacity Analysis
- CEE 417 Urban Transportation Planning
- CEE 420 Construction Productivity
- CEE 421 Construction Planning
- CEE 422 Construction Cost Analysis
- CEE 430 Ecological Quality Engineering
- CEE 431 Biomonitoring
- CEE 432 Stream Ecology
- CEE 434 Environmental Systems Analysis, I
- CEE 436 Sustainable Urban Building Sites
- CEE 437 Water Quality Engineering
- CEE 440 Fate Cleanup Environ Pollutant
- CEE 445 Air Quality Modeling
- CEE 446 Air Quality Engineering
- CEE 450 Surface Water Hydrology
- CEE 452 Hydraulic Analysis and Design
- CEE 453 Urban Hydrology and Hydraulics
- CEE 457 Groundwater
- CEE 462 Steel Structures II
- CEE 463 Reinforced Concrete II
- CEE 465 Design of Structural Systems
- CEE 467 Masonry Structures
- CEE 468 Prestressed Concrete
- CEE 469 Wood Structures

- CEE 472 Structural Dynamics I
- CEE 480 Foundation Engineering
- CEE 483 Soil Mechanics And Behavior
- CEE 498-PT Public Transportation
- CEE 498 TSR Transportation Safety and Risk
- CEE 498SIS Sustainable and Resilient Infrastructure Systems
- CEE 503 Construction Materials Deterioration
- CEE 504 Infrastructure NDE Methods
- CEE 508 Pavement Rehabilitation
- CEE 512 Logistics Systems Analysis
- CEE 515 Traffic Flow Theory
- CEE 527 Construction Conflict Resolution
- CEE 534 Surface Water Quality Modeling
- CEE 535 Environmental Systems II
- CEE 537 Water Quality Control Processes I
- CEE 538 Water Quality Control Processes II
- CEE 540 Remediation Design
- CEE 546 Air Quality Control
- CEE 550 Hydroclimatology
- CEE 551 Open-Channel Hydraulics
- CEE 552 River Basin Management
- CEE 553 River Morphodynamics
- CEE 555 Mixing in Environmental Flows
- CEE 557 Modeling of Groundwater Flow and Solute Transport
- CEE 559 Sediment Transport
- CEE 560 Steel Structures III
- CEE 561 Reinforced Concrete III
- CEE 572 Earthquake Engineering
- CEE 573 Structural Dynamics II
- CEE 574 Probabilistic Load and Design
- CEE 575 Fracture and Fatigue
- CEE 581 Earth Dams
- CEE 585 Deep Foundations
- CEE 588 Geotechnical Earthquake Engineering
- CEE 598 COD Construction Optimization and Decision Making
- CEE 598 EH Environmental Hydrodynamics
- CEE 598 SGW Stochastic Analysis of Ground Water Flow and Transport
- CEE 598 SH Stochastic Hydrology
- CEE 598 IR Repair of Civil Infrastructure
- CEE 598 S Structural Design Optimization
- CEE 598 RA Reliability Analysis
- NPRE 402 Nuclear Power Engineering
- NPRE 475 Wind Power Systems

Systems Theory and Methods

- GE 413Engrg Design OptimizationGE 524 Data-Based Systems Modeling
- GE 525 Control of Complex Systems
- GE 530 Multiattribute Decision Making
- GE 550 Decision Analysis II
- IE 410 Stochastic Processes & Applications
- IE 411 Optimization of Large Systems
- IE 510 Applied Nonlinear Programming
- IE 511 Integer Programming
- IE 512 Network Analysis of Systems
- IE 513 Optimal System Design
- IE 598 Monte Carlo Simulation Methods

- ECE 486 Control Systems
- ECE 490 Introduction to Optimization
- ECE 515 Control System Theory & Design
- ECE 517 Nonlinear & Adaptive Control
- ECE 528 Analysis of Nonlinear Systems
- ECE 534 Random Processes
- ECE 553 Optimum Control Systems
- ECE 555 Control of Stochastic Systems
- ECE 586 Topics in Decision and Control
- ECE 586 CH Topics in Decision and Control: Coding Approaches to Reliable System Design
- ECE 586 YM Topics in Decision and Control: Estimation and Segmentation of Hybrid Models

Probability and Statistics

- STAT 420 Methods of Applied Statistics
- STAT 425 Applied Regression and Design
- STAT 428 Statistical Computing
- STAT 429 Time Series Analysis
- STAT 430 Topics in Applied Statistics
- STAT 440 Statistical Data Management
- STAT 448 Advanced Data Analysis
- STAT 510 Mathematical Statistics I
- STAT 511 Mathematical Statistics II
- STAT 525 Computational Statistics
- STAT 555 Applied Stochastic Processes
- STAT 571 Multivariate Analysis

Management, Law and Public Policy

- ACE 510 Adv Natural Resource Economics
- CEE 524 Construction Law
- BADM 505 Stat Analysis w/Business Applications
- BADM 508 Leadership and Teams
- BADM 509 Managing Organizations
- BADM 514 Managing Innovation
- BADM 553 Ethical Dilemmas in Business
- BADM 555 Info Sys Development and Management
- BADM 572 Stat for Management Decision Making
- BADM 573 Quantitative Analysis of Decisions
- BADM 574 Simulation and Risk Analysis
- BADM 575 Systems Modeling & Simulation
- BADM 589 Project Management
- ECON 414 Urban Economics
- ECON 511 Public Goods Theory
- ECON 516 Environmental Economics
- FIN 432 Managing Fin Risk for Insurers
- GEOG 467 Dynm Simul of Nat Res Problems
- GEOG 466 Environmental Policy
- LAW 616 Environmental Law and Policy, I
- LAW 617 Environmental Law and Policy, II
- LAW 618 Natural Resources
- LAW 622 Land Use Planning
- MBA 503 Principles & Processes of Management I
- MBA 504 Principles & Processes of Management II
- MBA 505 Topics in Management
- NRES 540 Public Involvement in Response Management