

**PROGRESSIVE DEGREE PROGRAM  
COURSE PLAN TEMPLATE**

<b>USC SCHOOL</b>	Viterbi School of Engineering
<b>ACADEMIC DEPARTMENT</b>	Daniel J. Epstein Department of Industrial & Systems Engineering
<b>GRADUATE PROGRAM</b>	MS ORE (Operations Research Engineering)
<b>POST CODE</b>	129
<b>TERM EFFECTIVE DATE</b>	Spring 2021

**PROGRAM DESCRIPTION**

A brief description of the graduate program.

The MSORE degree is for students who hold a bachelor's degree in engineering, mathematics, science or related fields, who would like to enter careers in the use of computers and mathematics in solving business problems. The ORE degree trains students in solving business problems with computers and mathematics. (Open to graduates from all engineering and technical majors).

**COMMON BACHELOR DEGREE PROGRAM PATHWAYS**

A list of common bachelor's degrees that undergraduate students pursue in advance of pursuing a progressive degree option with this graduate program. Some programs are restricted to certain majors while others are open to all students.

Engineering	Science
Mathematics	Computer Science

**PREPARATORY UNDERGRADUATE COURSES**

A list of courses at the undergraduate level that prepare students for the graduate program. Required coursework is listed first, followed by recommended courses. If not applicable, this section will be blank.

Dept. Prefix - Course #	Course Title	Required or Recommended	Units
	Calculus I, Calculus II, Calculus III	Required	
	Linear Algebra	Required	
	Linear Programming	Required	
ISE-225	Engineering Probability, Statistics	Required	

**UNDERGRADUATE COURSES USED TO REDUCE GRADUATE LEVEL UNITS**

A list of undergraduate level courses that may be used to reduce the number of graduate level units required for the graduate program. If there are none, that is specified instead.

Dept. Prefix - Course #	Course Title	Units
	NONE	

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**CORE GRADUATE PROGRAM REQUIREMENTS (# units required)**

A list of all required graduate courses for the graduate program. None of these courses may be used toward satisfying undergraduate degree requirements.

*If special exceptions for any of these courses are made by the academic department, the course # is marked with an asterisk (\*) and the exception is explained in the "Department Notes" section at the end of this course plan template.*

<b>Dept. Prefix - Course #</b>	<b>Course Title</b>	<b>Units</b>
ISE-632	Network Flows and Combinatorial Optimization	3
ISE-536	Linear Programming and Extensions	3
ISE-538	Performance Analysis Using Markov Models	3
ISE-580	Performance Analysis with Simulation	3
ISE-583	Enterprise Wide Information Systems	3
<b>Choose 2 from the following 8 courses</b>		<b>6</b>
ISE 513	Inventory Systems	
ISE 514	Advanced Production Planning & Scheduling	
ISE 525	Design of Experiments	
ISE 539	Stochastic Elements of Simulation	
ISE 562	Decision Analysis	
ISE 563	Financial Engineering	
ISE 576	Industrial Ecology- Technology-Environmental Interaction	
SAE 541	Systems Engineering Theory & Practice	
CSCI COURSE	APPROVED BY ADVISOR (500 LEVEL)	3-4

**PRE-APPROVED ELECTIVE COURSEWORK**

Elective coursework is approved at the discretion of the academic department. Note the following details about the total number and units required of elective coursework.

6	<b>TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE</b>
0	<b>TOTAL ELECTIVE UNITS REQUIRED FOR THE PROGRESSIVE GRADUATE DEGREE</b>

**TOTAL UNIT COUNTS AND REQUIRED GRADUATE UNITS**

30	<b>TOTAL UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE</b>
6	<b>TOTAL GRADUATE UNITS THAT MAY BE WAIVED (IF ANY)</b>
24	<b>MINIMUM NUMBER OF GRADUATE UNITS THAT MUST BE AT THE 500 LEVEL OR ABOVE</b>

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**NOTES FROM THE DEPARTMENT**

This section highlights any unique considerations, exceptions, or requirements for the graduate program. If a program has specific restrictions (courses, majors, etc.), they are detailed below.

The PDP program requires 24-25 units.

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Kelly Goulis

**Authorizing Dean's Name**

April 7, 2021

**Date Approved**

Senior Associate Dean, Viterbi School of Engineering

**Authorizing Dean's Title**