Industrial and Systems Engineering  
Undergraduate Supply Chain Management & Logistics Track

Complementing their broader background as industrial engineers, the Supply Chain Management & Logistics Track will provide students with an exceptional background for the design and management of supply chains. This includes quantitative modeling of supply chain systems, as well as the use of such modeling to support system design and decision making. Such skills are in great demand for career paths in areas such as healthcare, energy systems, financial management, insurance, manufacturing and production systems, military planning, shipping and distribution, and transportation.

Entry into this track is competitive, as there is only space for a limited number of students in the required courses. Students will be admitted based on their EPHR, performance in CSE 1222/1223 and their math, programming and statistics courses. They should apply once all upper level math courses (Linear Algebra & Differential Equations) and statistics (Statistics 3470) have been completed.

Full completion of the Supply Chain Management & Logistics Track requires the following ISE & Non-ISE coursework:

As part of the Core Courses required of all ISE undergraduates, students must complete the following courses relevant to this track (as well as all other ISE Core Courses):
- ECON 2001.01 (take as Social Science GEC, subgroup C: Human, Natural & Economic Resources)
- MATH 1151 (Calculus I)
- MATH 1172 (or MATH 1152 – Calculus II)
- STAT 3470 (Introduction to Probability and Statistics for Engineers)
- MECHENG 2850 (Numerical Methods Using MATLAB)
- CSE 2112 (Modeling and Problem Solving with Spreadsheets & Databases)
- ISE 2040 (Engineering Economics)
- ISE 3200 (Linear and Integer Programming)
- ISE 3210 (Non-Linear Programming)
- ISE 3400 (Production Planning and Facility Design)
- ISE 3800 (Project Management)
- ISE 4120 (Quality Control and Design of Experiments)
- ISE 4100 (Stochastic Modeling and Simulation)

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Specific Supply Chain Management & Logistics Track Coursework:

In addition to the ISE & Non-ISE courses above, students must also complete a combination of 3 of the following for a minimum of 9 credit hours:

- ISE 5110 (Design of Engineering Experiments) *(offered SP)* (3)
- ISE 5350 (Probabilistic Models and Methods in Operations Research) *(offered SP)* (3)
- ISE 5830 (Decision Analysis) *(offered AU, every even year)* (3)
- ISE 5840 (Market Engineering and Applications) *(offered AU, every odd year)* (4)

Additionally, students must take **ONE** of the following ISE options for a total of 12 credit hours in ISE specific coursework:

- ISE 5682 (Fundamentals of Product Design Engineering) *(offered AU & SP)*
  OR
- ISE 5820 (Systems Thinking) *(offered AU)* (3)
  OR
- ISE 5800 (Advanced Project Management) *(offered AU & SP)* (3)
  OR
- ISE 5760 (Visual Analytics & Sense Making) *(offered SP)* (3)

Students must take the following 7 week course from Business which is 1.5 credit hours:

  M&L 3380 (Logistics Management) (pre-requisite is Econ 2001.01)
  *(offered AU session 1 & 2 and SP session 1 & 2)*

Students must also take 4.5 credit hours of the following additional courses in Business. Note that some of these courses are 7 week courses and only 1.5 credits meaning that three 7 week courses would be required to fulfill this requirement OR a combination of one 3-credit hour course plus one 7 week course.

- M&L 4383 (Supply Chain Management) (pre-requisite is M&L 3380) (1.5 credits)
  *(7 wk course, AU sessions 1 & 2 and SP session 1 only)*
- M&L 4380 (Advanced Logistics Management) (1.5 credits) *(7 wk course, AU & SP session 1)*
- M&L 4382 (Logistics Analytics) (3 credits) *(Full-term course, offered AU & SP)*
- M&L 4387 (Lean Logistics) (1.5 credits) *(7 wk course, AU & SP, session 1)*
- M&L 4385 (Sustainable Supply Chains) (1.5 credits) *(7 wk course, AU session 1, SP session 2)*