

**Vermilion Community College
University of Minnesota Duluth**

Transfer Program in Industrial Engineering

Listed below are the courses offered at Vermilion Community College that apply to the Bachelor of Science degree in Industrial Engineering at the University of Minnesota Duluth. After successful completion of the listed Vermilion courses, students may complete the B. S. in Industrial Engineering with additional full-time study at UMD.

Vermilion Community College Courses to Complete	cr.	UMD Requirements Satisfied by Vermilion Courses	cr.
Engl 1511 College Composition I	4	Comp 1120 College Writing	3
Chem 1522 General Chemistry I	5	Chem 2172 General Chemistry	4
Econ 1556 Principles of Economics - Micro	3	Econ 1023 Prin. of Economics: Micro	3
or Econ 1557 Principles of Economics - Macro	3	or Econ 1022 Princ. of Economics: Macro	3
Math 1561 Calculus I	5	Math 1296 Calculus I	5
Math 1562 Calculus II	5	Math 1297 Calculus II	5
Phys 2561 Engineering Physics I	5	Phys 1201 Mechanics	4
Phys 2562 Engineering Physics II	5	Phys 1202 Heat and Electricity	4
Liberal Education Electives	23		

Courses to Complete at UMD

CS 1511 Computer Science I	5	IE 3115 Operations Research	4
Engr 2015 Statics	2	IE 3125 Engineering Economic Analysis	3
Engr 2016 Mechanics of Materials	3	IE 3135 Manufacturing Processes I	4
Engr 2026 Dynamics	3	IE 3205 Project Management	3
Engr 3201 Electrical Power	3	IE 3265 Production & Operations Mgt.	4
		IE 3245 Manufacturing Processes II	4
IE 1105 Intro to Engineering Design	3	IE 3255 Statistical Quality Control	3
IE 1205 Intro to Manufacturing Engr.	3	IE 4115 Facility Planning & Simulation	4
IE 2105 Intro to Mat. Science for Engineers	3	IE 4135 Automation & Robotics	3
Math 3280 Differential Eq. w/ Linear Alg.	4	IE 4145 CAD/CAM	4
Stat 3611 Introduction to Prob. & Stat.	4	IE 4175 Machine Design	3
		IE 4255 Design of Industrial Systems	3
Comp 3130 Adv. Writing: Engineering	3	IE 5010 Manufacturing Systems Integr.	4
or Comp 3150 Adv. Writing: Science	3	IE Approved Technical Electives	2 or 3
IE 3105 Human Factors	4	Remaining Liberal Education & Adv. Soc. Science Elective	

Bachelor of Science in Industrial Engineering

Industrial Engineering is concerned with the engineering of a product from its original conception through its design, manufacture, delivery, service, and support. Industrial engineers consider the economic, technical, and human factors in production and address the production issues of operations, management, safety, and quality control. Career fields are wide and varied, ranging from design engineers to hospital administration.

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Further Information:

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