

**Mesabi Range Community & Technical College  
University of Minnesota, Duluth**

**Transfer Program in Industrial Engineering**

Listed below are the courses offered at Mesabi Community College that apply to the Bachelor of Science in Industrial Engineering at the University of Minnesota, Duluth.

<b>Mesabi Community College Courses to Complete</b>	<b>cr</b>	<b>UMD Requirements satisfied by Mesabi courses</b>	<b>cr</b>
Engl 1511 College Writing I	4	Comp 1120 College Writing	3
CSci 1467, 2467 Pascal, Advanced Pascal	6	CS 1511 Computer Science I	5
Chem 1522 General Chemistry I	5	Chem 2172 General Chemistry	4
Econ 1556 Micro or 1557 Macro Economics	3	Econ 1023 Micro or 1022 Macro Economics	3
Math 1561 Calculus I	5	Math 1296 Calculus I	5
Math 1562 Calculus II	5	Math 1297 Calculus II	5
Math 2564 Diff Equations w/ Linear Algebra	5	Math 3280 Diff Equations w/ Linear Algebra	4
Stat 2551, 2552 Statistics I, II	6	Stat 3611 Probability & Statistics	4
Phys 1571, 1581 Engineering Physics I & Lab	5	Phys 1201 Mechanics	5
Phys 1572, 1582 Engineering Physics II & Lab	5	Phys 1202 Heat and Electricity	5
Engr 1355 Engineering Drafting	3	IE 1025 Intro to Engineering Design	3
Engr 2262 Statics and Dynamics	5	Engr 2015 Statics	2
		Engr 2026 Dynamics	3
Liberal Education courses		Liberal Education courses	

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**Courses to be Completed at UMD:**

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|---|---|
| Engr 3201 Electrical Power, 3 cr                | IE 4115 Facility Planning and Simulation, 4 cr  |
| Engr 2016 Mechanics of Materials, 3 cr          | IE 4135 Automation & Robotics, 3 cr             |
| IE 2105 Intro to Materials Science, 3 cr        | IE 4145 CAD/CAM, 4 cr                           |
| IE 3 105 Human Factors, 4 cr                    | IE 4175 Machine Design, 3 cr                    |
| IE 3115 Operations Research, 4 cr               | IE 4255 Design of Industrial Systems, 3 cr      |
| 1E 3125 Engineering Economic Analysis, 3 cr     | IE 5010 Manufacturing Systems Integration, 4 cr |
| IE 3135-3245 Manufacturing Processes I-II, 7 cr | Comp 3130 Advanced Writing, 3 cr                |
| IE 3205 Project Management, 3 cr                | Advanced Liberal Education (for engineering)    |
| IE 3255 Statistical Quality                     | Liberal Education courses                       |
| IE 3265 Production & Operation Mgmt, 4 cr       |   |

**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, from ranging from design engineers to hospital administration.

**Further Information:**

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