

Industrial Engineering and Management (IE&M) - Accelerated MBA Curriculum

Curriculum Guide effective Fall 2024 ~ North Dakota State University

STUDENT _____

ID # _____

Advisor _____

| | Fall | | | | | Spring | | | | |
|-----------------------|-----------------------------|--|----------|----------------------|---------------------|--------------------------------|----------|-------|--|--|
| | Course | Crs | Sem | Grade | Course | Crs | Sem | Grade | | |
| Freshman (34 crs) | CHEM 121 | General Chemistry I | 3 | | IME 111 | Introduction to IME | 3 | | | |
| | CHEM 121L | General Chem Lab I | 1 | | MATH 166 | Calculus II | 4 | | | |
| | [C] ENGL 110 | College Composition I | 4 | | ME 212 | Fund of Visual Comm | 3 | | | |
| | ENGL 120 | College Composition II | 3 | | ME 221 | Engr Mechanics I | 3 | | | |
| | MATH 165 | Calculus I | 4 | | CHEM 122 | General Chemistry II | 3 | | | |
| | Comp Sci Elect | (see side bar) | 3 | | | | | | | |
| | | 18 | | | | 16 | | | | |
| Sophomore (27-59 crs) | COMM 110 | Fund of Public Speaking | 3 | | IME 311 | Work/Station Design | 3 | | | |
| | IME 330 | Mfg Processes | 3 | | MATH 266 | Differential Equations | 3 | | | |
| | MATH 129 | Basic Linear Algebra | 3 | | PHYS 252 | University Physics II | 4 | | | |
| | MATH 259 | Multivariate Calculus | 3 | | PHYS 252L | University Physics II Lab | 1 | | | |
| | ME 222 | Engr Mechanics II | 3 | | ME 223 | Mechanics of Materials | 3 | | | |
| | Gen Ed - ECON 105 | Elements of Economics | 3 | | Gen Ed Elect | | 3 | | | |
| | | 18 | | | | 17 | | | | |
| Junior (60-89 crs) | IME 656 | Program & Project Mgmt | 3 | | IME 461 | Quality Assurance & Cntrl | 3 | | | |
| | IME (replaces STAT 330) 460 | Evaluation of Engr Data | 3 | | IME 670 | Operations Research I | 3 | | | |
| | ENGL 321 | Writing in Tech Profession | 3 | | IME 672 | Simulation Bus & Indl Sys | 3 | | | |
| | CE 309 | Fluid Mechanics | 3 | | ME 350 | Thermodynamics/Heat Trsf | 3 | | | |
| | IME 640 | Engineering Economy | 3 | | Gen Ed Elect | (see side bar) | 3 | | | |
| | | | | | Wellness Elect | (see side bar) | 2 | | | |
| | | 15 | | | | 17 | | | | |
| Senior (90+ crs) | Gen Ed - ENGR 327 | Ethics, Engineering, and Technol | 3 | | IME 450 | Systems Engr & Mgmt | 3 | | | |
| | IME 680 | Production & Inventory Cntrl | 3 | | Engr Sci Elect | (see side bar) | 3 | | | |
| | IME 482 | Automated Mfg Systems | 3 | | IME 489 | IME Capstone | 3 | | | |
| | IME 485 | Indl & Mfg Facility Design | 3 | | Technical Elect | (see side bar) | 3 | | | |
| | MGMT (IME TECH) 320 | Found. Of Mngt. | 3 | | MRKT (IME TECH) 320 | Foundation of Marketing | 3 | | | |
| | ACCT 102 | Fund. of Acctnt | 3 | | FIN 320 | Principles of Finance | 3 | | | |
| | | 18 | | | | 18 | | | | |
| | | | | TOTAL CREDITS | | 137 | | | | |
| MBA | MBA 701 | Strategic Cost Management | 2 | | MBA 705 | Strategic Marketing Management | 2 | | | |
| | MBA 702 | Advanced Financial Management | 2 | | MBA 706 | Managing Information Resources | 2 | | | |
| | MBA 703 | Advanced Organizational Behavior | 2 | | MBA 707 | Microeconomics for Managers | 2 | | | |
| | MBA 704 | Supply Chain and Operations Management | 2 | | MBA 708 | Advanced Strategic Management | 2 | | | |
| | | | 8 | | | | 8 | | | |

| General Education Electives | | | |
|--|-----------|-----|-------|
| <i>See Registration Schedule for approved courses.</i> | | | |
| Humanities/Fine Arts [A] | Crs | Sem | Grade |
| ENGR 327 | 3 | | |
| * | 3 | | |
| Social/Behavioral Sciences [B] | | | |
| ECON 105 | 3 | | |
| * | 3 | | |
| W- Wellness | 2 | | |
| | 14 | | |
| <i>Check off once completed</i> | | | |
| D - Cultural Diversity: double up with [A] or [B] | | | |
| G - Global Perspectives: double up with [A] or [B] | | | |

| IE&M Electives | | | |
|--|-----------|-----|-------|
| <i>Approved electives are listed on the back of this page.</i> | | | |
| | Crs | Sem | Grade |
| Computer Science Elective | 3 | | |
| Take ONE of the following 4 courses: | | | |
| CSCI 122, ECE 173, CSCI 159, CSCI 160, or CSCI 227 | | | |
| Engineering Science | 12 | | |
| CE 309, ME 223, & ME 350 | 9 | | |
| Choose ONE of the following 3 courses below: | | | |
| ECE 275 or ECE 301 or EE 206 | 3-4 | | |
| Technical Electives | 9 | | |
| MGMT 320 | 3 | | |
| MRKT 320 | 3 | | |
| * | | | |

"T" indicates requirement satisfied with transfer credits.

* See reverse side for elective information.

Grades less than "C" will not be accepted for CHEM, MATH, and PHYS.

[C] First Year students with an ACT score of 18 or higher in English may register for ENGL 120. A passing grade will be awarded for ENGL 110 by completing ENGL 120 with a "C" or better.

| IE&M BS + MBA | | |
|--------------------------|---|-----------|
| MBA Prerequisites | | |
| ACCT 102 | Fundamentals of Accounting | 3 |
| ECON 105 | Elements of Economics | 3 |
| FIN 320 | Principles of Finance | 3 |
| MGMT 320 | Foundations of Management | 3 |
| MRKT 320 | Foundations of Marketing | 3 |
| IME 460 (STAT 330) | Evaluations of Engineering Data | 3 |
| | | 18 |
| MBA Electives | | |
| IME 656 | Program and Project Management | 3 |
| IME 640 | Engineering Economy | 3 |
| IME 670 | Operations Research | 3 |
| IME 672 | Simulation of Business and Industrial Systems | 3 |
| IME 680 | Production and Inventory control | 3 |
| | | 15 |
| MBA Core | | |
| MBA 701 | Strategic Cost Management | 2 |
| MBA 702 | Advanced Financial Management | 2 |
| MBA 703 | Advanced Organizational Behavior | 2 |
| MBA 704 | Supply Chain and Operations Management | 2 |
| MBA 705 | Strategic Marketing Management | 2 |
| MBA 706 | Managing Information Resources | 2 |
| MBA 707 | Microeconomics for Managers | 2 |
| MBA 708 | Advanced Strategic Management | 2 |
| | | 16 |
| | Total Sum | 49 |

Completed during the 4-years BS curriculum

Completed during the 5th year

MBA PreReq Acct 102, Econ 105, Fin 320, MGMT 320 or MRKT 320, STAT 330

MBA Electives 14 crs min

MBA Substitutes

MBA Core 16 crs min, 8 credits per semester

| MBA | IME |
|----------|------------|
| ACCT 102 | N/A |
| ECON 105 | IME Gen Ed |
| FIN 320 | N/A |
| MGMT 320 | IME TECH |
| MRKT 320 | IME TECH |
| STAT 330 | IME 460 |