Twin Cities Campus

Manufacturing Operations Management B.A.Sc.

CCAPS Applied Professional Studies

College of Continuing and Professional Studies

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2017
- Required credits to graduate with this degree: 120
- Required credits within the major: 79 to 83
- Degree: Bachelor of Applied Science

Manufacturing operations management (MM) is the study and application of methods to improve manufacturing operations and productivity to enhance a company's competitiveness in the global arena. The curriculum combines a strong foundation in manufacturing systems and processes, supply chain/quality/project, and operations management. Graduates are prepared to work as production supervisors, materials managers, manufacturing managers, production planners, project leaders, lead technicians, order process analysts, and business analysts. The MM major is offered in close collaboration with Minnesota manufacturing professionals.

Program Delivery

This program is available:

- partially online (between 50% to 80% of instruction is online)

Admission Requirements

Students must complete 45 credits before admission to the program.

A GPA above 2.0 is preferred for the following:

- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students who have 30 transferable semester credits, preferred minimum 2.50 GPA, and a strong interest in the major may be admitted to pre-major status.

Each application for admission is individually reviewed in a holistic context.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Required prerequisites

Courses

Calculus

MATH 1142 - Short Calculus [MATH] (4.0 cr)
or MATH 1271 - Calculus I [MATH] (4.0 cr)
or MATH 1571H - Honors Calculus I [MATH] (4.0 cr)

Physics

PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1107 - Introductory Physics Online I [PHYS] (4.0 cr)
or PHYS 1401V - Honors Physics I [PHYS, WI] (4.0 cr)

Chemistry

CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)

General Requirements

All students are required to complete general University and college requirements including writing and liberal education courses. For more information about University-wide requirements, see the liberal education requirements.Required courses for the major or minor in which a student receives a D grade (with or without plus or minus) do not count toward the major or minor (including transfer courses).

Program Requirements

Preparatory Courses

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WRIT 1301 or WRIT 1401 recommended for Freshman Composition

Accounting

ACCT 2051 - Introduction to Financial Reporting (4.0 cr)
or APEC 1251 - Principles of Accounting (3.0 cr)

Oral Communication

COMM 1101 - Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 1101H - Honors: Introduction to Public Speaking [CIV] (3.0 cr)
or COMM 3402 - Introduction to Interpersonal Communication (3.0 cr)
or COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)

Economics

APEC 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1101H - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or APEC 1102 - Principles of Macroeconomics (3.0 cr)
or ECON 1101 - Principles of Microeconomics [SOCS, GP] (4.0 cr)
or ECON 1102 - Principles of Macroeconomics (4.0 cr)

Statistics

STAT 1001 - Introduction to the Ideas of Statistics [MATH] (4.0 cr)
or STAT 3011 - Introduction to Statistical Analysis [MATH] (4.0 cr)
or BA 2551 - Business Statistics in R [MATH] (4.0 cr)

Technical Writing

One technical writing course or writing intensive science course.
PHYS 1101W - Introductory College Physics I [PHYS, WI] (4.0 cr)
or PHYS 1102W - Introductory College Physics II [PHYS, WI] (4.0 cr)
or PHYS 1301W - Introductory Physics for Science and Engineering I [PHYS, WI] (4.0 cr)
or PHYS 1302W - Introductory Physics for Science and Engineering II [PHYS, WI] (4.0 cr)
or WRIT 1001 - The Art of Explaining Things: Introduction to Technical Writing and Communication (3.0 cr)
or WRIT 3152W - Writing on Issues of Science and Technology [WI] (3.0 cr)
or WRIT 3257 - Technical and Professional Presentations (3.0 cr)
or WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

Major Courses

Students must complete a minimum of 3 credits of MM 4596 if MM 4501 is not taken.
MM 3001W - Manufacturing in the Global Economy [WI] (3.0 cr)
MM 3205 - Engineering for Manufacturing Operations (3.0 cr)
MM 4011 - Virtual Reality and Simulation in Manufacturing (3.0 cr)
MM 4012 - Advanced Manufacturing: Applied Process and Technology (3.0 cr)
MM 4035 - Global Supply Chain Management (3.0 cr)
MM 4039 - The Science of Sourcing: Partnerships for Success (3.0 cr)
MM 4045 - The Product Life Cycle in a Regulated Industry (3.0 cr)
MM 4102 - Optimizing Operations Management (3.0 cr)
MM 4201 - Quality Engineering and Management (3.0 cr)
MM 4311 - Sustainable Lean Manufacturing: Eliminating the Waste (3.0 cr)
ABUS 4022W - Management in Organizations [WI] (3.0 cr)
ABUS 4023W - Communicating for Results [WI] (3.0 cr)
ABUS 4043 - Project Management in Practice (3.0 cr)
ABUS 4101 - Accounting and Finance for Managers (3.0 cr)
MM 4596 - Internship (1.0 cr)
or MM 4193 - Capstone Directed Study (3.0 cr)

Technical Elective Courses

Other related 3xxx or 4xxx courses may be substituted with department approval.
Take 8 or more credit(s) from the following:
•ABUS 4013W - Legal, Ethical, and Risk Issues for Managers [WI] (3.0 cr)
•ABUS 4041 - Dynamics of Leadership (3.0 cr)
•ABUS 4151 - Innovation for Leaders and Organizations (3.0 cr)
•ABUS 4515 - Strategy and Management for a Sustainable Future (3.0 cr)
•ABUS 4701 - Introduction to Marketing (3.0 cr)
•HSM 4541 - Health Care Finance (3.0 cr)
•HSM 4561W - Health Care Administration and Management [WI] (3.0 cr)
•MM 3305 - Advanced 3D Printing for Innovative Business Practices (3.0 cr)
•MM 4550 *{Inactive}*(1.0 cr)
•MT 3111 *{Inactive}*(3.0 cr)
•MT 3121 *{Inactive}*(3.0 cr)
•MT 3131 *{Inactive}*(4.0 cr)
•MT 3141 *{Inactive}*(4.0 cr)
•MT 3142 *{Inactive}*(1.0 cr)

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•PHAR 3700 - Fundamentals of Pharmacotherapy (3.0 cr)

Upper Division Writing Intensive within the Major

Subgroup Description: Students are required to take one upper division writing intensive course within the major. If that requirement has not been satisfied within the core major requirements, students must choose one course from the following list. Some of these courses may also fulfill other requirements.

Take 0 - 1 course(s) from the following:

•ABUS 4013W - Legal, Ethical, and Risk Issues for Managers [WI] (3.0 cr)
•COMM 3605W - Persuasive Speaking and Speech Writing [WI] (3.0 cr)
•WRIT 3152W - Writing on Issues of Science and Technology [WI] (3.0 cr)
•WRIT 3562W - Technical and Professional Writing [WI] (4.0 cr)

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