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Departmental Contacts

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What is MEM?

The Management and Engineering for Manufacturing (MEM) Program is an independent academic major that belongs to both the School of Engineering and the School of Business. It is built upon a simple philosophy: to be effective, technological innovations in manufacturing must be applied to a streamlined and simplified operating environment. As a result of the partnership between the School of Business and School of Engineering, MEM students graduate with a BS degree jointly conferred by both schools, and are part of an elite cohort with two tassels hanging from their mortarboards at graduation.

Through their studies and internships in the MEM Program, students develop a thorough understanding of the interrelationships among the different areas of a manufacturing enterprise. An integrated education provides a competitive advantage in the manufacturing arena, in which applications of subject matter from business and engineering are equally important.

For the last decade, 100% of our graduating seniors have been employed in their chosen field or have begun working on an advanced degree, such as UConn’s MSBAPM (Master of Science in Business Analytics and Project Management) degree, at or shortly after graduation. Some MEM students enter an even smaller cohort of students in the MSBAPM 4+1 degree program, in which students begin to earn credits toward their MS while still in their undergraduate career. This enables them to complete a Master’s degree with just one additional year of education beyond their BS.

MEM graduates have immense flexibility to work as practicing engineers or to focus more on the business side of things. Companies find MEM graduates to be well-rounded engineers that see the “big picture” due to their unique curriculum. This positions our graduates to be very successful in getting coveted internships and “Leadership Development Program” positions at major companies, introducing them to multiple facets of the business, and preparing them for a “fast track” to promotion. Due to this, MEM graduates tend to secure higher starting salaries than their peers who pursue other engineering or business majors. Given the level of competition in seeking employment, employers look to hire people who are educationally well-suited for their fields. MEM provides the tools needed to be competitive.

The UConn MEM program is accredited in both engineering management and manufacturing engineering by the Accreditation Board for Engineering and Technology (ABET) – the same organization that accredits all engineering programs at UConn and other national peer institutions. Unlike other majors in the school of engineering, MEM is also accredited by the Association to Advance Collegiate Schools of Business (AACSB) as part of the UConn’s School of Business.

MEM students have access to career networks for both the School of Business and the School of Engineering:
- https://career.business.uconn.edu/undergraduate/
- https://undergrad.engr.uconn.edu/career-development

Recent Graduate Career Data

A sample of recent graduate job titles include Cell Leader, Consulting Analyst, Operations Associate, Project Engineer, Quality Control Engineer, Manufacturing Engineer, Logistics and Operations Manager, Supply Chain Specialist, and Technology Consulting Analyst.
Our recent graduates have been employed by Accenture, Hartford Hospital, Johnson Outdoors, Legrand, Lockheed Martin, Pratt & Whitney, QuEST Global, Sikorsky, Stanley Black and Decker, and Unilever. As of the 2019 data, the median base salary for an MEM graduate was $68,000 and the high base salary was $75,100. Additional salary information can be found here: https://career.business.uconn.edu/employers/undergraduate-employment-stats/.

Academic Policies

Academic Advising
All MEM students are assigned to an Academic Advisor when admitted to the program:

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<td>First and Second Year Students</td>
<td>Suzanne Borton</td>
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<td>Third and Fourth Year Students</td>
<td>Dr. Tang or Dr. Calvert</td>
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All students are required to meet with their assigned Academic Advisor every semester to discuss progress to graduation and course selection. There will be a registration hold placed on students until this meeting is completed. Students should go to their Advisor for questions regarding prerequisites, course selection, career planning, and form submissions. Students looking for permission numbers should reach out to Sharon Mariotti, the Administrative Assistant.

Students who wish to transfer credits from other institutions, should review their course on the UConn Transfer Course Equivalencies website at https://admissions.uconn.edu/apply/transfer/transfer-credit/equivalencies/

Navy STEM Concentration and Minors
Students may elect to pursue an academic minor or the Navy STEM concentration. Minors are not required for graduation. For more information please visit:

https://navy-stem.uconn.edu/
https://catalog.uconn.edu/
https://www.mem.uconn.edu/what-is-mem/mem-minors

If you plan to pursue a minor or Navy STEM concentration, please discuss this with your Academic Advisor.

Preliminary and Final Plans of Study
Students must submit a preliminary plan of study in the Student Administration system once they reach Junior status (54+ credits). There will be a registration hold placed until this is complete.

In order to be eligible to graduate, students apply to graduate and submit a final plan of study in the Student Administration system by the fourth week of their final semester.

For assistance completing these plans, please visit this page: https://undergrad.engr.uconn.edu/advising/plan-of-study.

Supplemental Academic Standards
Students admitted to the Management and Engineering for Manufacturing (MEM) program must maintain a high standard of scholastic achievement to continue in the major program.
Any student having completed 24 or more credit hours must maintain a minimum 2.79 cumulative grade point average. A student failing to meet this standard is subject to dismissal from the program. Being dismissed from the program does not prevent a student from reapplying once the dismissal criteria are corrected.

**Supplementary Dismissal Process**

Following final grades being entered into cumulative GPA’s after the fall and spring semesters at UConn, the MEM program evaluates its students’ academic progress against the MEM supplemental academic standards. Students who have completed 24 credits are required to maintain a 2.79 cumulative GPA in order to remain in the MEM program.

**Here’s what you need to know**

- When a student’s cumulative GPA falls below 2.79, they will receive a supplementary dismissal letter from the program. Students who are dismissed from the MEM major will be administratively unregistered from their 2000/3000/4000 level courses in the School of Business, and their major will be changed to Undecided Engineering.
- A student falling below a 2.85 will receive a warning letter, and is encouraged to seek academic assistance through the university academic supports such as the Academic Achievement Center, Engineering Tutoring Center, Writing Center, and Q Center.
- All students are encouraged to seek supports, but particularly those whose GPA falls below a 3.0.
- When a student has successfully completed one semester of Senior Design and is on track for Spring graduation, we will waive the dismissal process and offer supports instead.

**What if I have been Supplementarily Dismissed from MEM?**

If you have received a dismissal letter from MEM, you should immediately contact your advisor and schedule an appointment to navigate next steps. You may submit an appeal by writing a letter to the program directors requesting consideration to continue in the program, and should include information about factors contributing to poor academic performance and plans for academic recovery. A dismissal committee will communicate a final decision to all students subject to dismissal from the MEM program. Dismissed students maintain the right to raise their GPA, retake certain courses and even reapply when they again meet the MEM eligibility criteria.

**What is the timeline for Warnings and Dismissals?**

While these dates may have slight variation due to unforeseen complications at the University level, the MEM policy on dismissal timing is as follows:

**Dismissals after the Fall Term**

- Dismissal letters emailed to students approximately 2 weeks before the start of the Spring semester.
- Appeals are due 1 week before the Spring semester on the date listed in the dismissal letter received.
- Final decisions on appeals are made 2-3 weekdays before the first day of classes in the Spring semester.

**Dismissals after the Spring Term**

- Dismissal letters emailed to students approximately 1 week after grades and GPAs have been finalized at University.
- Appeals are due 2 weeks after grades and GPAs have been finalized at University and on the date listed in the dismissal letter.
- Final decisions on appeals are made 3 weeks after grades and GPAs have been finalized at the University.
Please discuss any questions you have regarding academic policies with your Academic Advisor. More information can be found on the MEM website: www.mem.uconn.edu.

MEM Curriculum

The MEM curriculum consists of 138* total credits including general education and major courses. Students should closely follow the below curriculum guide and use their Academic Requirements Report in Student Administration to ensure completion of their degree.

Requirements for all MEM students, both through the School of Business and through the School of Engineering, must be fulfilled. Students must work very carefully with their MEM advisor. Completion of all major requirements also fulfills all School of Business, School of Engineering, and ABET requirements.

The Management and Engineering for Manufacturing undergraduate program educational objectives are that our alumni/ae: practice their profession with solid engineering and business knowledge and skills and have a total enterprise vision of world class manufacturing and service organizations; compete successfully using lean manufacturing and quality management principles in the design, manufacture of products, and development of services; and apply high professional standards, with up to date knowledge and personal skills, integrating global factors in their approach to engineering and business decisions.

Information Literacy

In addition to the basic competency achieved in ENGL 1007, 1010, 1011 or equivalent, all students will receive instructions on how to conduct an effective search for information in the library and how to conduct an effective search on the web for applicable engineering topics in ENGR 1000 or equivalent. As the student progresses in their program, various courses will require assignments to increase their information literacy competency. The advanced level of information technology competency will be achieved at the completion of MEM 4971W and 4972W.

Writing in the Major

MEM 4971W and 4972W are the senior design project courses for the program. All students must write reports on their projects. These courses provide opportunities to write professional reports with appropriate feedback and criticism from two faculty members. The report writing provides instruction in proper report structure for professional work in practice.

Students are encouraged to seek faculty-supervised manufacturing summer internships prior to their junior and senior years. Such internships may be shown on the student records by registering for MEM 3281, with instructor and advisor approval.

*Please refer to your specific catalog year as this number is subject to change
MEM majors are required to complete the following:

**General Education Courses**
- Environmental Literacy “E” course
- ENGL 1007, 1010, or 1011: First Year Writing
- Content Area 1: PHIL 1104: Philosophy and Social Ethics
- Content Area 1: History Requirement (see page 10 for course list)
- Content Area 2: ECON 1200: Principles of Economics (intensive) *(Spring Only)*
- Content Area 2/4-int: International Requirement (see page 10 for course list)
- Content Area 4: Additional Content Area 4 course (see link on page 10)

**Required Math and Science Courses**
- CHEM 1127Q: General Chemistry I
- MATH 1131Q: Calculus I
  - *Prerequisites: A score of 22 or higher on the Math Placement Exam*
- MATH 1132Q: Calculus II
  - *Prerequisites: MATH 1131Q*
- MATH 2110Q: Multivariable Calculus
  - *Prerequisites: MATH 1132Q*
- MATH 2410Q: Elementary Differential Equations
  - *Prerequisites: MATH 1132Q*
- PHYS 1501Q: Physics for Engineers I
- PHYS 1502Q: Physics for Engineers II
  - *Prerequisites: PHYS 1501Q*
- STAT 1000Q or STAT 1100Q: Introduction to Statistics / Elementary Concepts of Statistics

**Required Business Courses**
- ACCT 2101: Principles of Managerial Accounting
  - *Prerequisites: ACCT 2001*
- BLAW 3175: The Legal and Ethical Environment of Business
- BUSN Elective: any 3000+ course from a BUSN department**
- FNCE 3101: Financial Management
  - *Prerequisites: ACCT 2001, ECON 1200, MATH 1131Q and MATH 1132Q, and STAT 1000Q/1100Q*
- MGMT 3101: Managerial and Interpersonal Behavior
  - *Prerequisites: ACCT 2001, ECON 1200, and ENGL 1007/1010/1011*
- MGMT 4900: Strategy, Policy, and Planning
  - *Prerequisites: ACCT 2101, BLAW 3175, FNCE 3101, MGMT 3101, MKTG 3101, OPIM 3103 and 3104*
- MKTG 3101: Introduction to Marketing Management
  - *Prerequisites: ACCT 2001, ECON 1200, and ENGL 1007/1010/1011, MATH 1131Q, 1132Q, and STAT 1000Q/1100Q*
- OPIM 3801: Principles of Project Management

**Required Engineering Courses**
- CE 2110: Applied Mechanics I
  - *Prerequisites: MATH 1132Q*
- CE 3110: Mechanics of Materials
  - *Prerequisites: CE 2110*
- CSE 1010: Introduction to Computing for Engineers
- ECE 2000: Electrical and Computer Engineering Principles (Fall Only)
  Prerequisites: PHYS 1502Q

- ENGR 1000: Orientation to Engineering

- ENGR 3215 or OPIM 3652: Statistical or Industrial Quality Control (OPIM 3652 is a Spring Only Course)
  Prereqs for ENGR 3215: MATH 2110Q; Prereqs for OPIM 3652: STAT 1000Q/1100Q and OPIM 3104*

- ENGR Elective: any 3000+ course from an ENGR department***

- ME 2233: Thermodynamic Principles
  Prerequisites: CHEM 1127Q, PHYS 1501Q, and MATH 2110Q

- ME 3221: Manufacturing Automation

- ME 3227: Design of Machine Elements
  Prerequisites: CE 3110

- ME 3263: Introduction to Sensors and Data Analysis (Fall Only)
  Prerequisites: ME 2233, PHYS 1502Q, and CE 2110

- MSE 2101: Materials Science and Engineering I
  Prerequisites: CHEM 1127Q

- MSE 2102: Materials Science and Engineering II
  Prerequisites: MSE 2101

**Required MEM Courses**

- MEM 1151: Introduction to Management and Engineering Manufacturing Program
- MEM 2211: Introduction to Manufacturing Systems
  Prerequisites: STAT 1000Q/1100Q
- MEM 2212: Introduction to Manufacturing Systems Lab
  Prerequisites: MEM 2211 (may be taken concurrently)
- MEM 3221: Introductions to Products and Processes (Fall Only)
  Prerequisites: MEM 2211
- MEM 3231: Computers in Manufacturing
  Prerequisites: MEM 2211
- MEM 4225: Advanced Products and Processes (Fall Only)
  Prerequisites: MEM 3221
- MEM 4971W: Senior Design Project I
  Prerequisites: MEM 2211 and ENGL 1007/1010/1011, OPIM 3801 is highly recommended
- MEM 4972W: Senior Design Project II
  Prerequisites: MEM 4971W

Neither OPIM 3103 nor OPIM 3104 may be used to fulfill business-elective credit by MEM majors. ME 3222 may not be used to fulfill engineering-elective credit by MEM majors.

*MEM students who have completed CSE 1010 or 1100 will not be required to take OPIM 3103 and will satisfy the requirements for courses that will have OPIM 3103 as a requisite.

**The Business Technical Elective must be from a 3000-level or higher course from one of the following five departments in the School of Business: Accounting, Finance, Management, Marketing, or Operations and Information Management.

***The Engineering Technical Elective must be from a 3000-level or higher course from the School of Engineering or from the following list of Allied Health courses: AH 3270, 3570, or 3574.
General Education Requirements

Content Area One: Arts and Humanities:
- PHIL 1104
- One from: HIST 1201, 1400, 1501/W, 1502/W, 1600 (LLAS 1190/W), 1800, 3705, or ECON 2102/W

Content Area Two: Social Sciences
- ECON 1200, or ECON 1201 and 1202
- One from: ANTH 1000/W; GEOG 1700, 2000; HRTS 1007; POLS 1202, 1207; WGSS 2124

Content Area Three: Science and Technology
- CHEM 1127Q
- PHYS 1501Q and PHYS 1052Q

Content Area Four: Diversity and Multiculturalism
- Covered by the CA 2/4-international course chosen above
- One additional course from CA 4

A list of appropriate Content Area 4 courses may be found here: https://catalog.uconn.edu/general-education/
## MEM Curriculum Map

### Freshman

**Semester One**
- CHEM 1127Q: General Chemistry 1 (4 credits)
- ENGR 1000: Orientation to ENGR (1 credit)
- MATH 1131Q: Calculus I (4 credits)
- CSE 1010: Intro to Computing for ENGR (3 credits)
- ENGL 1007: Writing and Composition (4 credits)

**Semester Two**
- MEM 1151: Intro to MEM (3 credits)
- ECON 1200: Principles of ECON (4 credits)
- MATH 1132Q: Calculus II (4 credits)
- STAT 1100Q/1000Q: Elem. STAT (4 credits)
- Gen Ed: Content Area 4 (3 credits)

16 credits

### Sophomore

**Semester One**
- MEM 2211: Intro to Manuf. Systems (3 credits)
- MATH 2110Q: Multivariable Calculus (4 credits)
- PHYS 1501Q: Physics for ENGR I (4 credits)
- CE 2110: Applied Mechanics I (3 credits)
- ANTH 1000 or GEOG 1700 (CA 2/4-int) (3 credits)

**Semester Two**
- PHIL 1104: Social Ethics (CA 1) (3 credits)
- ACCT 2001: Princ. Finan ACCT (3 credits)
- MATH 2410Q: Elem Diff. Equations (3 credits)
- PHYS 1502Q: Physics for ENGR II (4 credits)
- HIST 1400: Modern Western (CA 1) (3 credits)
- Free Elective (3 credits)

18 credits

### Junior

**Semester One**
- MEM 3221: Intro to Products and Proc (3 credits)
- ACCT 2101: Princ. of Manag. ACCT (3 credits)
- OPIM 3801: Princ. Project MGMT (3 credits)
- ECE 2000: Elec. Comp. ENGR Princ. (3 credits)
- CE 3110: Mechanics of Materials (3 credits)
- MSE 2101: Materials Sci and ENGR (3 credits)

**Semester Two**
- MEM 3231: Comp. in Manufacturing (3 credits)
- FNCE 3101: Financial Accounting (3 credits)
- ENGR 3215 or OPIM 3652 (3 credits)
- MGMT 3101: MGMT and Interp. Behav (3 credits)
- ME 2233: Thermodynamics (3 credits)
- MSE 2102: Materials Sci and ENGR (3 credits)

18 credits

### Senior

**Semester One**
- MEM 4971W: Senior Design I (2 credits)
- MEM 4972W: Senior Design II (2 credits)
- MKTG 3101: Intro to Marketing MGMT (3 credits)
- ME 3221: Manufacturing Automation (3 credits)
- ME 3263: Intro to Sensors and Data (3 credits)
- ENGR Elective (3 credits)

**Semester Two**
- MEM 4972W: Senior Design II (2 credits)
- BUSN Elective (3 credits)
- BLAW 3175: Legal and Ethic Env. BUSN (3 credits)
- MGMT 4900: Strategy, Policy, and Plan (3 credits)
- ME 3227: Design of Machine Elements (3 credits)

14 credits

Total Credits: 117 credits
Course Planning Chart

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Total Credits: 138

Summer courses are not required but can be helpful for getting ahead or catching up on credits.