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## LaGrange College

### Course Catalog - Manufacturing Engineering Technology

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#### **METC 1101 - Introduction to Engineering**

Introduction to engineering as a discipline and the materials and processes used in product manufacturing. Also includes an introduction to the values and ethics of engineering and engineering technology.

**Grade Basis:** L

**Credit hours:** 3.0

**Lecture hours:** 3.0

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#### **METC 1102 - Occupational Safety**

Introduction to occupational safety and the health hazards associated with man-machine systems. Emphasis is on the recognition, evaluation, and control of such hazards.

**Grade Basis:** L

**Credit hours:** 2.0

**Lecture hours:** 2.0

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## **METC 1114 - Graphics for Engineering Technology**

Introduction to visualization skills and graphic communication techniques for engineering technology. Sketching, computer-aided drafting, solid modeling, and drawing interpretation.

**Grade Basis:** L

**Credit hours:** 2.0

**Lecture hours:** 2.0

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## **METC 1115 - Programming for Engineering Technology**

Introduction to programming in MATLAB or other software with an emphasis on solving problems in engineering technology. Basic operations, variable manipulation, loops, functions, input and output, and data visualization. Course requires MATH 1221 or higher as a pre-requisite.

**Grade Basis:** L

**Credit hours:** 2.0

**Lecture hours:** 2.0

**Prerequisites:**

- [MATH 1221](#) - Precalculus

**Restrictions:**

- Manufacturing Engineering Technology or Pre-Engineering Majors
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## **METC 2101 - Metal Manufacturing Technology**

Machine tool functions, use of hand tools, precision measurements, welding, and fabrication of metals.

**Grade Basis:** L

**Credit hours:** 2.0

**Lecture hours:** 2.0

**Prerequisites:**

- [MATH 1221](#) - Precalculus
- [METC 1101](#) - Introduction to Engineering

**Restrictions:**

- Manufacturing Engineering Technology or Pre-Engineering Major
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## **METC 2330 - Statics and Strength of Materials**

Introduction to concurrent force analyses, stresses, strains and combined stresses in structures and machines components. Includes laboratory work.

**Grade Basis:** L

**Credit hours:** 3.0

**Lecture hours:** 3.0

**Prerequisites:**

- [MATH 1221](#) - Precalculus
- [METC 1101](#) - Introduction to Engineering
- [PHYS 1101](#) - Introductory Physics I
- [PHYS 1101L](#) - Introductory Physics I Lab

**Restrictions:**

- Manufacturing Engineering Technology Student
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## **METC 2550 - Internship**

An opportunity for students to gain added early applied experience and insight in approved off-campus settings. Internships consist of at least 40 working hours per credit hour in areas related to the discipline. Assignments may include selected readings, public presentation, and a final portfolio containing essays, weekly journal, and supporting material. Advisors, program coordinators, department chairs, and the internship coordinator (or designee) must approve the internship before a student begins their work. Internships will be taken as pass/no credit.

**Grade Basis:** P

**Credit hours:** 3.0

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## **METC 2615 - Ethics and Sustainability in Technology**

Examines the values and ethics of a technological society and the input of the technologist into the decision-making process of a technological organization. Health and safety, sustainability, professionalism, integrity, quality, and continuous improvement with emphasis on applications related to manufacturing/technology.

**Grade Basis:** L

**Credit hours:** 2.0

**Lecture hours:** 2.0

**Restrictions:**

- Sophomore
  - Manufacturing Engineering Technology Major
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## **METC 3101 - Materials and Processes in Manufacturing**

Processing/microstructure/property interrelations; heat treatment of steels and alloys; overview of manufacturing processes; interrelations among materials, design and manufacturing; and introduction to material selection.

**Grade Basis:** L

**Credit hours:** 3.0

**Lecture hours:** 3.0

**Prerequisites:**

- [CHEM 1101](#) - General Chemistry I
  - [METC 2330](#) - Statics and Strength of Materials
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## **METC 4550 - Internship in Manufacturing Engineering Technology**

An internship is designed to give students direct exposure and experience working in a professional environment. It requires, and develops, both content knowledge and soft skills. Pre-majors may consider an exploratory internship in any area; majors are encouraged to complete an internship in the discipline in which they desire to work after graduation. Students will work with the department faculty and the Career Center to initiate the internship request. Students may choose to complete more than one internship, but no more than 6 credit hours may be applied toward the student's graduation requirements. Internships consist of at least 40 working hours per credit hour in areas related to the discipline. Advisors, program coordinators, department chairs, and the internship coordinator (or designee) must approve the internship before a student begins their work.

**Grade Basis:** L

**Credit hours:** 3.0

**Restrictions:**

- Must have at least Sophomore Status
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**LaGrange College**

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