

# COMPUTER-AIDED MACHINING (CAMM)

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## **CAMM 111, INTRO TO COMPUTER NUMERICAL CONTROL 2 (4)**

This introductory course covers manual CNC programming techniques for 3-axis milling machines and 2-axis turning centers. Basics of job planning, tooling, tool path graphics and verification are included. Course focuses on Fanuc-compatible controllers using late model CNC equipment. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Concurrent: TECN 111 and TECN 131

**Typically Offered:** Fall and Spring Semesters

## **CAMM 115, METALLURGY 3 (4)**

This course covers the study of metallurgical structure and its effects on properties of ferrous and non-ferrous metals and alloys. Students will be introduced to manufacturing methods, phase diagrams, iso-thermal transformation diagrams and heat treatment processes. Laboratory required.

**General Education:** IN1

## **CAMM 141, TOOL AND DIE 2 (4)**

This course covers the design, construction, and operation of stamping dies, punches, die sets, stops, strippers, gages, pilots, and presses. Students will design and construct a working die set using the traditional machining and CNC machines. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

## **CAMM 215, ADVANCED CNC MILLING MACHINES 3 (6)**

Covers advanced CNC programming techniques for mills or machining centers. Topics include set-up, operation, and maintenance of the machines as well as 4th-axis programming, parametric programming and introduction to Computer-Aided Machining (CAM) techniques for machining centers. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: CAMM 111; Course placement policy: Grade of C or higher in MTHM 033 or satisfactory placement assessment score in mathematics

**Typically Offered:** Fall Semester

## **CAMM 225, ADVANCED CNC LATHES 3 (5)**

This course covers advanced CNC programming techniques for lathes or turning centers. Topics include set-up, operation, and maintenance of the machines as well as parametric programming techniques and introductory Computer-Aided Machining (CAM) for turning centers. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: CAMM 111; Course placement policy: Grade of C or higher in MTHM 033 or satisfactory placement assessment score in mathematics

**Typically Offered:** Spring Semester

## **CAMM 235, CAD-CAM GRAPHICS 3 (6)**

Course develops skill in graphic toolpath generation for machining and turning. Students build wireframe, surface, and solid models using CAM software and develop associated toolpath. The course also covers CAD data translation, CNC communications, customization of post-processors and other related topics. Laboratory required. (A special fee will be assessed.)

**General Education:** IN1

**Course Entry Requirement(s):** Prerequisite: CAMM 111 and CADD 111

**Typically Offered:** Spring Semester

## **CAMM 287, WORK BASED LEARNING I - CAMM 1-3 (1)**

This course provides supervised work experience with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating classroom learning with work experience. Students will be able to evaluate career selection, demonstrate employability skills, and satisfactorily perform work-related competencies. Activities are coordinated and evaluated by college personnel. Course will be graded on S/U basis. Prerequisite: Student must be pursuing an approved program at LCCC, have completed 15 semester hours with a minimum of six semester hours in the discipline of placement; have a minimum GPA of 2.5 in the discipline and a 2.0 overall GPA; and have divisional approval.

**Course Entry Requirement(s):** A student must be pursuing an approved program at LCCC; have completed 15 semester hours with a minimum of six semester hours in the discipline of placement; have a minimum GPA of 2.5 in the discipline and a 2.0 overall GPA; have divisional approval

**Typically Offered:** Offer as required

## **CAMM 288, WORK BASED LEARNING II - CAMM 1-3 (1)**

This course provides supervised work experience building on experience in Work-Based Learning I with approved employer(s) in an area related to the students program. Emphasis is placed on integrating classroom learning with work experience. Students will be able to evaluate career selection, demonstrate employability skills and satisfactorily perform work related competencies. Activities are coordinated and evaluated by college personnel. Course will be graded on the S/U basis.

**Course Entry Requirement(s):** Prerequisite: CAMM 287

**Typically Offered:** Offer as required

## **CAMM 289, WORK BASED LEARNING III - CAMM 1-3 (1)**

This course provides supervised work experience building on experience in work-based learning II with approved employer(s) in an area related to the student's program. Emphasis is placed on integrating classroom learning with work experience. Students will be able to evaluate career work-related competencies. Activities are coordinated and evaluated by college personnel. Course will be graded on the S/U basis.

**Course Entry Requirement(s):** Prerequisite: CAMM 288

**Typically Offered:** Offer as required