



## Course Profile

### CAD and Design Technology

**Course Location:** Saint Johns High School

#### Year 1 Prerequisites:

- 1) Students must have completed a basic drafting course at their local high school.
- 2) Students must have local approval based on high school graduation requirements.

#### Year 2 Prerequisites:

- 1) Students must have local approval based on high school graduation requirements.
- 2) CAD & Design Technology I.
- 3) Students must complete the intent to return process.
- 4) Instructor approval.

#### Credits:

This course provides the opportunity to earn the following **articulated credits** from **Lansing Community College**:

Credits	To be eligible to earn credit, students must achieve:
<b>ARCH 110 (3 credits)</b> Visual Communications I	<ul style="list-style-type: none"> <li>• Accuplacer reading level 4</li> <li>• Accuplacer writing level 4</li> <li>• Accuplacer math level 3</li> <li>• Minimum 2.0 in DCTM 101 (or concurrently) or ARCH 100 or an 80% in Architectural Drafting Placement Test</li> </ul>
<b>ARCH 114 (4 credits)</b> Architectural Drawing / Basic AutoCAD	<ul style="list-style-type: none"> <li>• Accuplacer reading level 4</li> <li>• Accuplacer writing level 4</li> <li>• Accuplacer math level 4</li> <li>• Minimum 2.0 in DCTM 101 (or concurrently) or ARCH 100 or an 80% in Architectural Drafting Placement Test</li> </ul>
<b>DCTM 101 (3 credits)</b> Drafting Intro to CAD	<ul style="list-style-type: none"> <li>• Accuplacer reading level 4</li> <li>• Accuplacer writing level 4</li> <li>• Accuplacer math level 4</li> </ul>
<b>METD 100 (3 credits)</b> Basic Mechanical Drafting	<ul style="list-style-type: none"> <li>• Accuplacer reading level 3</li> <li>• Accuplacer writing level 2</li> <li>• Accuplacer math level 3</li> </ul>
<b>METD 110 (4 credits)</b> Mechanical CAD Drafting I	<ul style="list-style-type: none"> <li>• Accuplacer reading level 4</li> <li>• Accuplacer writing level 4</li> <li>• Accuplacer math level 4</li> <li>• Minimum 2.0 in MEDT 100</li> </ul>

#### Accuplacer Assessment:



To be eligible to receive Lansing Community College (LCC) credit for the course, students are required to take the Accuplacer assessment exam and obtain the listed minimum scores. LCC will admit students before the beginning of the school year as a necessary step prior to Accuplacer testing. The exam is taken as part of the course in the fall.

LCC staff will admit all incoming Career Connections students prior to the end of the current school year. At the session, students will need to bring their driver's license and Social Security card, as well as supply their full legal name, Social Security number, and correct address, including apartment numbers or P.O. box numbers. Schools will let students know the date when this enrollment is scheduled.

If on the first attempt a student does not attain the required scores, retakes are an option. The Accuplacer exam can be waived if a student submits ACT or SAT test results for verification that list comparable scores. Further Accuplacer exam information is available from the course instructor or by calling Lansing Community College at 517-483-9666.

### **Articulated Course Credits:**

Career Connections students are eligible for both high school and Lansing Community College credit. As is the case with all classes, students must earn the credit; it is not automatically granted by simply attending the class.

By enrolling in this course, students are eligible for articulated, pass/fail credit. To officially receive the credit, students must enroll at LCC within two years of completing the course.

When sending application information to post-secondary institutions (colleges, universities, community colleges, trade schools, etc.), students should include the credit information listed on this sheet so that admissions counselors fully understand the makeup of this Career Connections course. High school counselors should include this information on official school transcripts as well. Ultimately, students bear the responsibility of conveying the LCC class information to post-secondary institutions.

Further information is available from the course instructor or by calling the Career Connections administration office at 989-224-6831.

### **Course Description:**

A course designed for students seriously considering a design career in engineering / mechanical CAD, architecture, or other related design careers.

Students Choose a Design Career Path:

- Engineering/Mechanical CAD I & II
- Architecture I & II

### **Course Format:**



Students will select one of the career paths and then complete the required projects/lessons. This is a hands-on course with the majority of the student's grade being project-based. Students will be given short lectures and demonstrations to reinforce the unit content. Students will learn sketching, manual drafting, 2D CAD, and 3D CAD as they apply to the discipline they choose to study. Students will have the opportunity to see their designs come to life using the 3D prototype printer.

Software Programs Used: (Students will learn using current technology)

- AutoCAD: Used in both career paths
- AutoDesk Revit: Used in Architecture
- SolidWorks: Used in Engineering/Mechanical CAD
- Inventor: Used in Engineering/Mechanical CAD
- SketchUp: Used in Architecture

### Credit Information:

Listed below are the Lansing Community College degree and certificate programs that align with this course.

The following LCC programs require basic architectural drafting skills attained in ARCH 100:

- 1607 – Architecture Technology, Sustainable Residential Design and Building Science – Associate in Applied Science Degree
- 1636 – Architecture Technology, Sustainable Residential Design and Building Science – Certificate of Achievement

The following LCC program contains ARCH 110 and basic architectural drafting skills attained in ARCH 100:

- 1455 – Architecture Technology – Associate in Applied Science Degree

The following LCC program contains METD 100:

- 1522 – CNC Technician – Certificate of Completion – Choice 1

The following LCC programs contain METD 110 and require the basic mechanical drafting skills attained by passing METD 100 with a 2.0 or better:

- 1470 – Machine Tool Technology – Certificate of Achievement
- 1359 – Manufacturing Engineering Technology – Associate in Applied Science Degree
- 1354 – Manufacturing Engineering Technology – Certificate of Achievement
- 0110 – Industrial Manufacturing Engineering Technology – Associate in Applied Science Degree
- 1357 – Manufacturing Engineering Technology – Certificate of Completion



If you are interested in any of these LCC programs, you can find more information at the LCC website: [http://www.lcc.edu/catalog/degree\\_certificateprograms/current/](http://www.lcc.edu/catalog/degree_certificateprograms/current/)

Scroll down to the name of the program you are interested in and click on it. You will see a curriculum guide that will explain all the requirements for that program.

**Learn more about our courses. Visit the Career Connections tab on the Clinton County RESA website at [CCRESA.org](http://www.ccreesa.org).**

*It is the policy of the Clinton County Regional Educational Service Agency (RESA) that no discriminatory practices based on gender, race, religion, color, age, national origin, disability, height, weight, marital status, sexual orientation, political affiliations and beliefs, or any other status covered by federal, state or local law be allowed in providing instructional opportunities, programs, services, job placement assistance, employment or in policies governing student conduct and attendance. Any person suspecting a discriminatory practice should contact the Associate Superintendent for Special Education, 1013 S. US-27, St. Johns, MI 48879, or call 989-224-6831.*