



**WASHINGTON COUNTY COMMUNITY COLLEGE  
CALAIS, MAINE**

**Drafting & CAD Department  
Semester: Fall 2019**

**COURSE NUMBER:** DRG 124 **CREDIT HOURS:** 3  
**COURSE TITLE:** Print Reading, Sketching & Intro to CAD

**PREREQUISITES:** none  
**CO-REQUISITES:** none

<b>INSTRUCTOR</b>	<b>PHONE NUMBER</b>	<b>OFFICE</b>	<b>E-MAIL ADDRESS</b>
Mr. McCormick	454-1005	CAD Lab Howland Hall	rmccormick@wccc.me.edu

**OFFICE HOURS:** Mon thru Thurs 11:00 a.m. – 12:15 p.m. or by appointment

**TEXTS:** None Required

**OTHER MATERIALS:**  
3 ring binder, min. 1 ½” ‘presentation’ style to accommodate a custom-made cover sheet.

**COURSE DESCRIPTION:**

This course provides instruction in the basics of technical drawing, sketching, mechanical print reading and an introduction to Computer-Aided Drafting using industry standard software. Students will create drawings, both on paper and through the use of the CAD software, that are particular to their chosen trade.

**COURSE OBJECTIVES:**

Upon successful completion of this course, the student should be able to demonstrate proficiency with:

- representing their design ideas on paper using sketching and board drafting techniques
- representing their design ideas using Computer-Aided Design software
- practicing visualization skills: ability to view and represent objects in 3d space
- identifying and practicing the principles of proper design and those of the creative arts: lines, shapes, patterns, textures, color, space, perspectives, scale, proportion, balance, rhythm, and symmetry
- understanding the interrelationships between Function and Form: “does the product design work ergonomically (function) and is it visually, artistically and attractive (form)?”
- basic geometric terminology and its use in industrial design
- technical sketching
- technical board drafting
- entry level mechanical and architectural CAD programs
- the use of symbology in the fields of welding and other mechanical trades
- reading and interpreting field drawings and plans
- the use of 3d printing technology

## **COURSE CONTENT:**

- Course Introduction
  - Policies and Procedures
  - Course Syllabus
  - Calendar
- History and evolution of technical drawing/drafting
- Foundations for technical drawing
- Relationships/parallels/contrasts between art and technical / industrial design
- Study of geometric design; industrial design; optical illusions; and geometric, sidewalk chalk and surrealist artists to include: M.C. Escher, Leonardo DaVinci, Salvador Dali
- Geometry terminology review and use in industrial design
- Techniques for sketching and technical board drafting
- Shape description / drafting projections
- Size Description
- Measurement: units, scales
- Section views
- Auxiliary views
- Developments / stretchouts
- Assemblies / exploded views
- Working drawings
- Uses in architectural professions
- CAD software
  - Sketchup
  - Home Designer Architectural
  - Chief Architect
  - AutoCAD Intro
- Intro to 3D printing
- Evaluation of project designs: does “function follow form?”

## **COURSE ACTIVITIES:**

Students will create hands-on projects in these categories:

- pencil sketching
- technical board drafting
- review of geometric terminology
- mechanical CAD designs
- architectural CAD designs
- mechanical and welding plan reading, nomenclature and symbology
- 3d printing

## **GRADING:**

Participation:	25%
Projects:	50%
Homework:	10%
Tests/Quizzes:	15%

## **GRADING SCALE:**

“This course follows the standard WCCC grading scale, which can be found in the WCCC College catalog.”

## **ATTENDANCE POLICY:**

The student is responsible for knowing the following attendance policy of the college:

1. In standard academic courses (1-4 credit hours), students may not be absent more than ten percent of the hours the course meets during the term. When a student's absenteeism exceeds this number, the instructor will refer the student to the Associate Dean of Student Affairs. If the student does not adhere to guidelines set by the instructor or the Associate Dean, proper papers are available in the student services office and must be filed in timely fashion with the Registrar's Office.
2. Due to the frequency and extended hours in some trade programs that meet in 4 hour, daily blocks, students may not be absent for more than 6.5 percent of the hours the course meets during the term or a total of five (5), 4 hour classes per semester.
3. The instructor must counsel the student that excessive absences will lead to an administrative withdrawal. Additional remedies and obligations, such as mandatory tutoring or time spent in the study center, may be imposed by the instructor or student success team.
4. Any tardiness up to five (5) minutes will be counted as one-half of an absence, and a tardiness of more than five minutes will count as a full absence.
5. The student will be counted absent if he/she leaves class early without prior instructor permission.
6. When dropped from a course for poor attendance, the student may appeal to the Academic Dean for readmission if he/she feels there is justification for the absences. It is the student's responsibility to immediately contact the Academic Dean concerning the appeal for readmission. The student may be required to provide written evidence to substantiate legitimate reasons for being absent.
7. If the student anticipates extensive absences, he/she must notify the Associate Dean of Student Affairs in writing immediately. A Student Success Team will then be convened to devise a strategy to enhance his or her likelihood of success.

### **COURSE REQUIREMENTS:**

Students are required to abide by the WCCC attendance policy and by all CAD Lab usage rules.

Students are required to maintain a 3-ring notebook.

Students are required to bring their notebook to all classes.

\*\* Cell phone use is not permitted during class time. \*\*

### **OTHER INFORMATION:**

Students will exhibit the following traits while learning in the CAD Lab:

**Accountability:** Those who are accountable stand by their words and actions, taking full responsibility for what they create and for what they contribute to the community.

**Respect:** Students who respect themselves, others and their environment help to create a safe, yet open climate of learning.

**Responsibility:** Students who assume personal responsibility for their education will reach their goals. Responsible students also make contributions to their communities.

**Critical Thinking:** Students who exhibit critical thinking skills, explore issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.

**Communication:** Students who communicate effectively in oral and written forms through traditional and new media possess powerful tools for personal and career success.

**Collaboration:** Collaborative teamwork maximizes benefits to individuals and communities. When collaboration is expected, instructors will clearly indicate it. When collaboration is not identified as part of an assignment, students must demonstrate individual skills.

### **STUDENTS WITH DISABILITIES**

**Accessibility Statement:** WCCC does not discriminate on the basis of disability in admission to, access to, or operation of its programs, services or activities. In accordance with Section 504 of the Rehabilitation Act of 1973 (CRF 34Part 104) and Title II of the Americans with Disabilities Act (ADA) and the Amendments of Americans with Disabilities Acts (AADA) of 2008 &2010, WCCC is committed to assisting qualified students with disabilities achieve their individual goals. **Students with disabilities who need academic**

**accommodations must contact Tiffany Peterson, the Coordinator of Accessibility Services, at 454-1093 or at her office in TRIO.**

## **ACADEMIC ETHICS**

Honesty in all academic work is expected at WCCC. Any student who is suspected of academic dishonesty will face investigation and possible disciplinary action. Academic dishonesty includes, but is not limited to, using unauthorized aids; copying another person's work on exams, quizzes and assignments; and taking language, information or ideas from another person or source without noting the appropriate reference. Students guilty of academic misconduct, either directly or indirectly through participation or assistance, are immediately responsible to the class instructor. In addition to other possible disciplinary sanctions that may be imposed as a result of academic misconduct, the instructor has the authority to assign an F or zero for an activity, or to assign an F for the course. Additional possible disciplinary sanctions may include dismissal from the college.