



**Course Syllabus
SEMESTER
School of Technology**

Course Name:	Mechanical Print Reading
Course & Section Number:	SKT-142-XXX
Meeting Day(s) & Time(s):	
Credits:	3
Contact Hours:	80
Text:	<u>Hammer's Blueprint Reading Basics, 4th Ed.</u> by Charles A. Gillis ISBN 9780831136147
Instructor's Name:	
Office Hours & Location:	
OCC Phone:	
OCC Email:	

If you have a preferred name, please let me know so I can use it. Please use only Owens email for course communications.

Catalog description:

Studies the symbols and types of mechanical prints used to diagnose and repair mechanical systems including basic fabrication and assembly. Emphasis is placed on sectional views, symbology, reading and electronically drafting basic mechanical prints.

Prerequisite/Corequisites:

N/A

Course Materials:

Hammer's Blueprint Reading Basics, 4th Ed. by Charles A. Gillis

Pencil, eraser, ruler, pocket calculator (provided by student)

*If a **print book, e-book, or access code** is required for class, you can access the Owens Community College e-Campus Bookstore by accessing the online link, called “Find Books” on the course schedule for each course section. See the example below.*

OER and Owens Community College Library Resources (Open Educational Resources are free online materials for instructor and student use. Some OER material may be available in print in the Owens Community College Library.)

Inclusive Access (I.A.) Materials are included in the cost of the course to save students money through lower negotiated rates with publishers. Courses containing I.A. materials will have it noted on the online class schedule. If your course includes I.A. digital materials, you will receive an email with subject line, “Your inclusive Access Materials,” and it will include any codes or digital links.

The email will come to your Owens Community College email from the Owens e-Campus Bookstore on the first day of class, if not before. Be sure to check your spam (junk email) if you do not find it in your inbox. If the email is not in your inbox or spam folder, contact your instructor immediately. You may also see a folder at the top of your course labelled “Course Materials by eCampus.” This folder will contain any needed codes or links to needed materials.

If the I.A. materials also include a printed book or are in print form, the item will be shipped to your address of record automatically based on your enrollment in the course. Please note that some courses do not include printed materials in I.A and those materials would need to be purchased separately using the link on the course schedule. When you access the Find Books link you will see which items in a course are included in I.A.

What You Will Learn in the Course

Course Objectives:

Course will introduce students to the basics of mechanical blueprint reading, including symbology, orthographic and isometric projection, basic drafting principles, dimensioning, tolerancing, basic GD&T, surface finishes, threads, castings, weldments, gears and assembly drawings.

Student Learning Outcomes:

Students will:

Outcome	Where Assessed
Demonstrate ability to read general areas of a blueprint	Chapter 1 Study Guide Responses, Evaluation 1 and Final Exam
Demonstrate ability to visualize drawings and parts between 2d and 3d depictions	Chapter 2 Study Guide Responses, Evaluation 1 and Final Exam
Identify the alphabet of lines and interpret drawings based on these lines	Chapter 3 Study Guide Responses, Evaluation 1 and Final Exam
Demonstrate ability to project a feature through orthographic views	Chapter 4 Study Guide Responses, Hands-On part/print matching lab participation, Evaluation 1 and Final Exam
Utilize dimensions on a blueprint to determine if a part is in spec	Chapter 5 and 6 Study Guide Responses, Hands-On part inspection lab, Evaluation 2

Outcome	Where Assessed
	and Final Exam
Discuss purpose of tolerance values and how to use them in statistical analysis	Chapter 6 Study Guide Responses and SPC practice lab, Evaluation 2 and Final Exam
Determine best-practice methods for inspection using GD&T	Chapter 7 Study Guide Responses, Evaluation 2 and Final Exam
Interpret surface finish callouts and their appearance in parts produced using common manufacturing methods	Chapter 8 Study Guide Responses, Evaluation 2 and Final Exam
Discuss and identify various thread callouts and their common symbology	Chapter 9 Study Guide Responses, Common threads identification lab, Evaluation 3 and Final Exam
Identify common machining, casting, forging and molding terminology	Chapter 10 and 11 Study Guide Responses, Evaluation 3 and Final Exam
Utilize common symbology to draft and interpret welding and gear drawings	Chapter 12 and 13 Study Guide Responses, Evaluation 3 and Final Exam
Identify various types of technical drawings and determine which drawing is best suited to each purpose	Chapter 14 Study Guide Responses, Final Exam

Program Outcomes:

The following program outcomes are assessed in this course

Outcome	Where Assessed
Use the engineering design process and quality assurance principles to analyze and solve design problems.	SPC practice lab, Hands-on part inspection lab, Assessment 2 and Final
Conceptualize, sketch and draw design projects and components.	Study guide activities Chapter 3 and 4, Hands-on part inspection lab, Assessment 1 and Final
Produce professional documentation	Research papers on how blueprint usage in industry and completed drawings

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

Competency	Where Assessed
Communicate effectively.	All tests and the final
Act with professional responsibility.	Post lab questions, all tests and the final
Demonstrate sensitivity to others' beliefs and values.	Research papers on blueprint usage and completed technical drawings
Think analytically, critically, and creatively.	Post lab questions

Technology, Lab, and File Requirements:

You may bring your own digital multimeter and safety glasses, but basic equipment will be provided.

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 151) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's Student Code of Conduct, which includes academic honesty, encompassing plagiarism. See the Board Policy for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's Anti-Discrimination and Harassment Policy and the College's Title IX Policy/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first

day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu. The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information.

Use of AI Tools: This course requires you to complete various assignments that assess your understanding and application of the course content. You are expected to do your own work and cite any sources you use properly. You are not allowed to use any artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to complete any part of your assignments. Any attempt to use these tools will be considered academic misconduct and will be dealt with according to the Owens Community College academic integrity policy. Students are expected to complete all work independently and without the assistance of AI-generated content. If you have any questions about what constitutes acceptable use of AI tools, please consult with the instructor *before* submitting your work.

Student Responsibilities & Instructor Expectations

Late Work (work turned in after assigned due date)

1. Blackboard Exams must be taken during the posted time frame. In class exams must be taken during class. Extenuating circumstances, such as school approved absences will be offered make-up exams. (Bereavement, Hospitalization, etc.)
2. Online tests/quizzes/homework will have due-date limits set. You must complete the online work within the specified time frame. After the time limit (due-date) is reached, the form will stop accepting responses.
3. Hardcopy work (paperwork assignments) -- 5% of grade will be deducted for each calendar day late.
4. Work turned in after 7 calendar days will be evaluated by instructor, but the student will receive no more than 50% for their grade on the assignment. After 10 calendar days the student will receive a zero.

Specific Course Rules

Safety is our number one concern in both the lab setting and classroom. Any student that is found to cause a hazardous situation either to themselves or others will be removed from the lab/classroom. All students in the classroom/lab should be able to feel safe and receive a positive learning environment.

Cell phones and devices: Over the past few years cell phones have become a major issue in the classroom and lab. The phones and other devices become a major distraction to the learning environment if not used correctly. Students will have projects to be working on when bookwork is done; there is limited need for them to have their phones or electronics out in class.

“Personal digital devices equipped with picture taking or video capabilities, text messaging, and Internet access can add value to the learning process when used appropriately.” Student personal digital devices that are brought to college or enroute to or from college or any college sponsored activity;

- Remain the sole responsibility of the owner. The college is not liable for damage, loss, or theft.
- At the college level may be used responsibly during non-instructional time and/or during instructional time for educational purposes when requested and supervised by a staff member.
- With video or picture taking ability may not be used at any time or place where individuals have an expectation of privacy such as restrooms or locker rooms.
- Photographs or images of individuals may not be taken or recorded without the person’s knowledge and permission.
- May not be used to harass, intimidate, or bully anyone, at any time.
- May not be used in any way that detracts from the “learning environment of the college.”

Bullying is a serious topic in any setting. Bullying will not be tolerated and if a student is found to be unable to conduct themselves properly they will be reported to the office and college policies will be followed. This may include the student being removed from the Program. All students deserve a positive learning environment. Please contact me if there is ever an issue. I cannot help if I don’t know there’s an issue!

How Grades and Determined and Major Assignments

Evaluation Measure The grade points for the areas of work are as follows.	Student Learning Outcomes Assessed	Value
Evaluation 1	1-5	50 points
Evaluation 2	5-8	50 points
Evaluation 3	9-12	50 points
Final	1-12	100 points

The final course grade is to be computed using the following average point distributions.

Evaluation Measure	Value	Student Learning Outcome Assessed
Class Participation:	10 %	1-12
Activities:	20%	1-12
Homework:	20%	1-12
Assessments:	30%	1-12
Final Exam:	20%	1-12

Grading Procedure:

Grades will be calculated on the following scale.

90% and Above	A
80% to Less than 90%	B
70% to Less than 80%	C
60% to Less than 70%	D
Less Than 60%	F

Tentative Class Assignments:

Session	DATE Class	DATE Class	SLO	Topic
1	DATE	DATE	1	Topic: Introduction, Syllabus, Basics of Manufacturing Prints Readings: Chapter 1 Lab: Study Guide Blueprints
2	DATE	DATE	1 & 2	Topic: Reading of Manufacturing Prints Readings: Chapter 2 Lab: Study guide blueprints
3	DATE	DATE	3	Topic: The Total Manufacturing Print Readings: Chapter 3 Lab: Study Guide Blueprints
4	DATE	DATE	4	Topic: Views Readings: Chapter 4 with study guide Lab: Hands-on parts to print lab
5	DATE	DATE	5	Topic: Dimension

Session	DATE Class	DATE Class	SLO	Topic
				Assessment: Chapters 1-4 Readings: Chapter 5 with study guide Lab: Hands-on projection lab
6	DATE	DATE	7	Topic: Tolerances Readings: Chapter 6 with study guide Assignment: Blueprint usage write up Lab: Part Inspection Lab
7	DATE	DATE	8	Topic: GD&T Readings: Chapter 7 with study guide,
8	DATE	DATE	9	Topic: Surface Finish Readings: Chapter 8
9	DATE	DATE	9	Topic: Threads and Machining Terms Readings: Chapter 9 and 10 Assessment: Chapters 5-8 Lab: Bring in a threaded component lab
10	DATE	DATE	10	Topic: Castings, Forgings, and Molded Part Prints Readings: Chapters 11
11	DATE	DATE	10	Topic: Welding and Sheet Metal Prints Readings: Chapter 12
12	DATE	DATE	11	Topic: Gears, Splines and Cams Readings: Chapter 13 Assessment: Chapters 9-12
13	DATE	DATE	8-12	Topic: Types of Manufacturing Prints Readings: Chapter 14 Assignment: Gear/thread drawing representations
14	DATE	DATE	1-12	Topic: Review Readings: Review
15	DATE	DATE	1-12	Final Exam

Disclaimer: The instructor reserves the right to amend this syllabus as deemed necessary and will communicate such amendment to the students in the course. Please note that while unlikely, there is a possibility courses might need to change the delivery method due to external issues like public health concerns, weather issues, etc. If this happens, the college will communicate any changes via email and/or other communication methods.