

MACH 162: Blueprint Reading

Spring 2021 Syllabus

Section: 5516 3 Units

Class Meetings

Online

Instructor Contact

Name: Bill McCracken

Office: 2309 Lounibos Hall

Office hours:

Wednesday – Thursday, 1:00 pm - 2:00 pm

Friday by Appointment

You may contact via email or Canvas. Zoom meetings are possible also and I may schedule a Zoom meeting during the semester. Watch your campus emails and Canvas announcements.

Office phone number: (707) 527-4488 (please leave a voice-mail message)

Email address: wmccracken@santarosa.edu

I respond to emails within 24 hours.

***Spring 2021 students:** Due to the Covid-19 restrictions, this course will be online only This is an asynchronous class, meaning that it is all online with no face-to-face portion of the class. You will still have due dates each week that are expected to be met. Your professionalism grade will be assessed by your punctuality of assignments. Just like in today's 21st century manufacturing workforce, deadlines must be met! Each week class may consist of a reading assignment, online quiz and a discussion board submission.

Canvas Course Web Site

<https://canvas.santarosa.edu/courses/50599>

Students will use the Canvas course web site for online lectures, assignment instructions, submitting assignments, viewing classmate's work, sharing resources, and viewing grades.

Textbook

Print Reading for Industry (Hard Copy Text, Electronic text + Common Cartridge 1yr Individual Access Key Code):

ISBN: 9781645640387 - \$106.95

Print Reading for Industry 1yr Common Cartridge Access Key Code

ISBN: 9781635635874 - \$58.25 (Electronic text+ Common Cartridge)

Must purchase one or the other from the SRJC bookstore.

This is a requirement.

You must locate and order textbooks via the [SRJC Bookstore](#). You **cannot** order these from 3rd party sites such as Amazon, Book Finder, etc.

Materials Needed

1. Online material including text
2. A computer capable of running Canvas

3. Calculator
4. Pens and note paper for taking notes

Course Description

Interpretation of engineering drawings and specification for machinists and welders: Explanation of the rules, symbols, and relationships covered in blueprints, assembly drawings and weldments. Emphasis on American National Standards Institute (ANSI)/American Society of Mechanical Engineers (ASME) Y14.5 Geometric Dimensioning and Tolerancing (GD&T) Standards and use of Coordinate Measuring Machine (CMM) for inspection of GDT specifications.

Course Outline of Record

https://portal.santarosa.edu/SRWeb/SR_CourseOutlines.aspx?mode=1&CVID=38328&Semester=20207

Student Learning Outcomes

Upon completion of the course, students will be able to:

1. Analyze engineering drawings and blueprints to determine parts features sizes, locations, tolerances, relationships, fits, finishes and material conditions.
2. Effectively express and exchange ideas through various modes of communication.
3. Demonstrate technical skills in keeping with the demands of their field of study.

Objectives:

Students will be able to:

1. Explain why drawings are so important to production planning and manufacturing.
2. Recognize viewing angles for the front, top, and side views of prints.
3. Identify the Alphabet of lines.
4. Describe the purpose of the title block and all of its meanings and uses.
5. Define the rules of dimensioning and the difference between size and location dimensions and dimensions with shop notes.
6. Identify basic geometric dimensioning, tolerancing, and datum referencing.

Topics and Scope

I. Prints, Sketches and Drawings

- A. Industrial prints
- B. Manufacturing prints
- C. Sketches
- D. Assembly drawings
- E. Sectional drawings

II. Views

- A. Three-view drawings
- B. Arrangement of views
- C. Two-view drawings
- D. One-view drawing
- E. Auxiliary views

III. Lines

- A. Object lines
- B. Hidden lines
- C. Center lines
- D. Extension lines
- E. Projection lines
- F. Other lines

- G. Line combinations
- IV. Block and Zoning
 - A. Title block
 - B. Material block
 - C. Revision block
 - D. Print distribution block
 - E. Zoning
 - F. Special title block
- V. Dimensions and Notes
- VI. Geometric Dimensioning and Tolerancing

Representative Assignments

1. Read and study assigned chapters in the assigned text
2. Homework problems and reports, such as research and obtain blueprint sketch or drawing from manufacturing firm or employer
3. Reading and drawing/interpreting sketches
4. Quizzes, midterm and final assessments

Exams

There will be a midterm and a final. The material comes from the textbook, class lectures and supplemental materials. If any exam is missed, a zero will be recorded as the score. It is your responsibility to take the online exams by the due date.

Grading Policy

Visit the "Grades" in Canvas to keep track of your grades. I grade weekly and post grades and comments on the online Canvas gradebook.

Your grades will be based on the following areas and count in the percentages noted:

Discussion and Responses: Online discussion board submissions Your discussion posts are due by 11:59 on Wednesdays and your response posts are due on Sundays by 11:59.

20%

Problem solving and Skill Demonstrations: Chapter Quizzes

30%

Exams: Midterm and final

40%

Your final will be due by Wednesday, May 26, 2021 by 11:59 PM.

Professionalism: Meeting deadlines and assignments on time as in a 21st century workplace practice. Utilizing 'Netiquette' practices

10%

Extra Credit: The instructor will notify you when/if extra-credit is available.

Unless otherwise informed by the instructor, grades are calculated based on total semester points that you have earned. Grades may be adjusted to a class curve, but you are guaranteed the grade listed in the following chart if you attain the point total associated with that grade.

Letter grade A = 90% - 100%

Letter grade B = 80% - 89%

Letter grade C = 70% - 79%

Letter grade D = 60% - 69%

Letter grade F = \leq 59%

Tests and Quizzes

- You will be given weekly quizzes. ***Check your copy of the weekly class schedule and your Canvas due dates regularly for quiz dates.***
- You will be given one midterm examination and a final examination.
- ***Final examination will be administered on finals week of class***

Study Tips

- ***Take notes during online lectures!*** You may use your class notes to study for exams.
- Keep your quizzes and use them to study for midterms and final exams.

Required Software

You will need the following software for this course. [If linking to PDF or Word documents, QuickTime or Flash videos, put in a link to the helper applications in your Syllabus or Getting Started section of your course materials.]

- [Adobe Reader](#)
- [Open Office](#)
- [Canvas](#)

Dropping the Class

If you decide to discontinue this course, it is your responsibility to officially drop it to avoid getting no refund (after 10% of course length), a W symbol (after 20%), or a grade (after 60%). Also, for several consecutive, unexplained absences, the instructor may drop a student.

Instructor Announcements and Q&A Forum

The instructor will post announcements on the "Instructor Announcements" page in Canvas throughout the semester. Canvas notifies students according to their preferred Notification Preferences as soon as the instructor creates an Announcement. A "Q&A Forum" is also on Canvas to ask for assistance of your classmates or of instructor.

Standards of Conduct

Cheating/Plagiarism: Cheating or plagiarism are unacceptable behavior and will result in an immediate two day suspension from class for all students involved; ***no exceptions***. Collaborating on or copying of tests or homework in whole or in part will be considered an act of academic dishonesty and result in a grade of 0 for that test or assignment. I encourage students to share information and ideas, but not their work. See these links on Plagiarism:

[SRJC Writing Center Lessons on avoiding plagiarism](#)

[SRJC's policy on Academic Integrity](#)

Class Participation: Your participation in class discussions is mandatory.

Missed Exams or Assignments: Assignments (lab sheets, homework, etc.) should be turned in on the dates

noted in the course outline.

Late assignments are not accepted without prior authorization from the instructor.

Students who register in SRJC classes are required to abide by the SRJC Student Conduct Standards. Violation of the Standards is basis for referral to the Vice President of Student Services or dismissal from class or from the College. See the [Student Code of Conduct page](#).

Emergency Evacuation Plan

In the event of an emergency during class that requires evacuation of the building, please leave the building immediately, but calmly. **Our class will meet at the Northeast end of Lounibos Hall in the parking lot to Campus Resources**

SRJC has many resources for its students. These are only a few of them. Please refer to the SRJC website for more information (www.santarosa.edu). Click the "For Students" tab, then the "Student Services" tab.

DRD (Disability Resources Department)

If you are having trouble learning or understanding in class and don't know why, you can get a free consultation at DRD. ***It may change your life!***

Just a few of the DRD services:

- Disability screening
- Test taking help
- Aids for the physically disabled

Santa Rosa Campus DRD Office information:

Email: disabilityinfo@santarosa.edu

Phone: (707) 527-4278

TTY: (707) 528-2442

Fax: (707) 524-1768

Office Location: Room 637, Analy Village, Bldg. C

Office Hours:

Fall & Spring Semesters: Monday-Friday, 8:00 AM to 4:00 PM

Summer Semester: M-Th, 8:00 AM to 4:00 PM, Closed Friday

Mailing Address:

Santa Rosa Junior College

Disability Resources Department.

1501 Mendocino Avenue

Santa Rosa, CA 95401-4395

College Skills/Tutoring Department

- ESL (English as a second language)
- Math skills improvement
- Writing skills classes

The College Skills Department is located in Analy Village, on the west side of campus.

The Academic Skills Lab is located in Building H, Rm 601.

The Math Lab is in Building F, Rm 615.

The Department Office is in Building G, Rm 605.

The Phone Number is (707) 527-4834.

Counseling Department

Santa Rosa Campus

Bertolini Student Center, 2nd Floor
(707) 527-4451

M, T, Th, F, 8:00 AM - 5:00 PM
W, 8:00 AM - 7:00 PM

"As a new student, seeing a counselor is probably the most important thing you can do". You don't need to go through SRJC without a clue! Hook up with a counselor. You may just find a friend, guide and advocate in the Counseling Department. At the least, you will formulate a plan of study and explore your interests and life possibilities.

Doyle Library

- Tutoring
- Computer use (free)
- Coffee shop
- Quiet study space

Special Needs

Students with disabilities who believe they need accommodations in this class are encouraged to contact Disability Resources (527-4278), as soon as possible to better ensure such accommodations are implemented in a timely fashion.

Semester: Spring 2021

Section: 5516

Course: MACH 162

The following deadline dates have been established for this section:

Day Class Begins:	Wednesday, January 20, 2021
Day Class Ends:	Friday, May 21, 2021
Day/Time of Final Exam:	To be Arranged
Last Day to Add without instructor's approval:	Tuesday, January 26, 2021
Last Day to Add with instructor's approval:	Sunday, February 7, 2021
Last Day to Drop and be eligible for enrollment/course fee refund:	Sunday, January 31, 2021
Last Day to Drop without a 'W' symbol:	Sunday, February 7, 2021
Last Day to Drop with a 'W' symbol:	Sunday, April 25, 2021
Last Day to Opt for Pass/No Pass:	
First Census Date:	Monday, February 8, 2021
Mid-Term Date:	3/29/2021 - 4/25/2021

Machine Tool Technology

Course Schedule
Spring 2021
MACH 162 - Section 5516

Blueprint Reading

Please note that this is a tentative schedule and that it is subject to change.

Note: Notes and a calculator are permitted. **Always check Canvas for due dates!!**

	DATE	QUIZ AND DISCUSSION
1	01/24	Intro Check-In Discussion & Quiz 1 Prints: The Language of Industry
2	01/31	Quiz 2 Conventions and Lettering
3	02/07	Quiz 3 Title Blocks and Parts Lists
4	02/14	Quiz 4 Geometric Terms and Construction
5	02/21	Quiz 5 Multiview Drawings
6	02/28	Quiz 6 Section Views
7	03/07	Quiz 7 Auxiliary Views
8	03/14	Quiz 22 Welding Prints
9	03/21	Quiz 8 Screw Thread Representation
10	04/04	Midterm
11	04/11	Quiz 9 Dimensioning
12	04/18	Quiz 10 Tolerancing
13	04/25	Quiz 11 Machine Specifications and Drawing Notes
14	05/02	Quiz 12 Surface Texture Symbols
15	05/09	Quiz 13 Geometric Dimensioning and Tolerancing
16	05/16	Quiz 14 Drawing Revision Systems
17	05/23	Quiz 15 Detail Drawings
18	05/26	FINAL EXAM Due by Wednesday, May 26, 2021 11:59 PM