

DRFT104 Syllabus

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Prerequisites: DRFT109, DRFT110, and M114

Alternative learning opportunities including independent study and distance delivery experience exist by obtaining the permission of the instructor.

Students With Disabilities: Disability-related information is deemed medical information under Title V of the Rehabilitation Act of 1973 and is considered confidential. Students with disabilities, whether physical, learning or psychological, who believe that they may need accommodations in this class are encouraged to contact Disability Support Services as soon as possible to ensure that such accommodations are implemented in a timely fashion. Please contact DSS to verify your eligibility for any classroom accommodations and for academic assistance related to your disability by calling 657-2283. The DSS contact person at the College of Technology is in room A071 and available Monday-Friday, 9 a.m.-2 p.m. Tutoring services for students are available in the Academic Support Center, A035, Monday through Friday, 8 a.m.-5 p.m.

I COURSE DESCRIPTION

Field notes from surveys are reduced using calculators, traverses balanced, elevations determined, contours interpolated, and areas determined. U.S. Public Land surveys are studied. Legal descriptions are written. Earthwork quantities are calculated from roadway cross sections. Cadastral maps and utility plans are studied.

II TASK INVENTORY

- A. Read legal descriptions and understand surveyor's notations.
- B. Describe and develop contour maps.
- C. Describe transportation and municipal plans.
- D. Identify and describe specific geological drawings.
- E. Understand Geographic Information Systems

F. Understand Global Positioning Systems

G. Understand computer software commands and applications

III PERFORMANCE OBJECTIVES

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

1. Identify the required skills and job responsibilities of a civil drafter.
2. Understand map scales and measurement.
3. Understand standard symbols and abbreviations.
4. Understand surveyor's notations.
5. Read legal descriptions.
6. Describe map drafting procedures.
7. List guidelines for the layout and drafting of a plat.
8. Describe methods for developing a contour map.
9. Describe route surveys and highway plans.
10. Describe types of drawings used in municipal mapping.
11. Identify and describe types of geological drawings.
12. Identify and describe types of Geographic Information System applications
13. Identify and describe types of Global Positioning System applications
14. Understand computer software commands and applications relating to the civil field

III B. CONTENT OUTLINE

1. Maps and Surveys
 - a. Introduction to Civil Technology
 - b. Map Scales and Measurement
 - c. Standard Symbols and Abbreviations
 - d. Interpretation of Surveyor's Notations
 - e. Legal Land Descriptions
 - f. Map Drafting Procedures
 - g. Plats and Subdivisions

2. Topographic Mapping
 - a. Measuring and Leveling
 - b. Contours and Profiles
 - c. Plotting the Topographic Survey
 - d. Field Survey (Closed Traverse)
 - e. Plotting a Survey from Field Notes

3. Transportation and Municipal Mapping

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- a. Transportation mapping
 - b. Municipal mapping
4. Geological Drafting
- a. Mining
 - b. Land reclamation
5. New and Emerging Technologies
- a. Geographic Information Systems
 - b. Global Positioning Systems
6. Computer Software Applications
- a. CAD software
 - b. 3rd-Party software as applicable

IV GRADING PROCEDURES

This course will be graded as follows:

33% assigned tasks

33% tests and lab tests

33% written final test

The following grading standard will be used:

<u>Percentage</u>	<u>Letter Grade</u>	<u>Numerical</u>
95-100	A	4
85-94	B	3
75-84	C	2
65-74	D	1
0-64	F	0

Two week limit on late tests and retakes

Late tests or retakes = 66% of grade received

The regular attendance of class is considered integral to the academic and technical skills development of students. It is the responsibility of the student to make arrangements with the instructor should extenuating circumstances apply.

V STUDENT REFERENCES

(Current textbook/supplies as directed by instructor at start of each semester – list on file in the bookstore)

Recommended Reference:

Library materials
Classroom materials
Cadence Magazine
Industry Magazines

VI CONTACT HOURS & CREDITS

LECTURE	LAB	TOTAL HOURS	CREDITS
32	0	32	2

VII. ASSISTANCE

The primary source of assistance is, of course, the instructor. While my primary duties are in the classroom, I also participate in a variety of activities on campus and this often requires me to be in my office or outside of the program area during lab times. Students should not hesitate to bring questions into the office during lab time. If I am involved in counseling or a meeting of some sort, please be patient and be assured that I will address your question as soon as possible.

My priority of response to communication is 1) Email - Always up and functioning on my desktop. This is probably the quickest way to receive an answer. 2) Phone – It's Ok to leave messages but it is difficult to reach me by phone. 3) Written – Notes and reminders are ok, however, written messages are generally not given high priority and are often stacked in forgotten piles which are discarded at the end of each academic year.

Students should also utilize each other as a resource for classroom situations and study groups. This is how information is often shared on the job and often leads to an overall interpretation of information. Of course, this does not apply during testing!

VIII. METHODOLOGIES AND LEARNING STYLES

The class will generally follow a process of guided exploration of a topic or software, assignment of a task or lab exercise that familiarizes the student with the topic and testing of the students' familiarity with the material.

New information will be distributed using the network. Testing and turning in assignments will also be done using the local area network.

I believe that students should be active participants in their learning. Students that participate in the lecture\demonstration components of the course should have little difficulty mastering the material. Many topics will be covered in this course and the student has a responsibility to explore the subject beyond what is covered in class. It is hoped that this methodology of exploration remains with the student beyond the end of the course and becomes a keystone of a technological curiosity.

IX. SAFETY

While the Drafting Lab areas may be low-risk areas by comparison, safety is always a prime concern. Electrical and lifting hazards are the most obvious concerns and situations should be treated accordingly. Any safety issue should be brought to the attention of the instructor immediately.

Material Safety Data Sheets (MSDS) are posted in the classrooms. All students shall conduct themselves in a safe manner. Students traveling into other labs must abide by posted restrictions including (but not limited to) safety glasses. Classrooms are equipped with first aid stations; a fire extinguisher is located in the hallway.

In case of alarm, students are required to evacuate the building per the evacuation chart located near the door of each classroom. Students should also be alert to situations of violence, extreme weather, etc.

X. STUDENT CONDUCT

Students must read and be familiar with the Code of Conduct as published in the Student Handbook, policies and procedures as outlined in campus publications, MSU-Billings and Drafting Program policies.

Students in this (or any) program of study should be especially aware of the severe consequences of plagiarism. Students that submit work that is not their own will be dealt with quickly and severely. It will be the recommendation of the faculty to remove such students from the University.

Students that have a concern regarding any inappropriate conduct should bring it to the attention of their instructor, advisor. Inappropriate conduct situations will be reviewed immediately.

XI. CELL PHONES AND CHILDREN IN THE CLASSROOM

Given the disruptive potential posed by cell phones, students are asked to keep cell phones off during class lectures. Use of cell phones during laboratory exercises is permissible, but please be considerate of others around you.

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Children, likewise, represent a disruptive element for the classroom. They also increase the risk of accidents occurring in the laboratory. For those reasons, children should not be brought to either the classroom or the laboratory.