

Course Syllabus

NOTE: This syllabus is subject to change during the semester. Please check this syllabus on a regular basis for any updates.

Department : Machine Technology
Course Title : Precision Tools / Measurement
Section Name : MCHN_1320_6245
Start Date : 08/27/2012
End Date : 12/11/2012
Modality : FACE-TO-FACE
Credits : 3 (2-4)

Instructor Information

Name : Carey Taylor
OC Email : ctaylor@odessa.edu
OC Phone # : (432) 335-6475

Course Description

An introduction to the modern science of dimensional metrology with emphasis on the identification, selection, application, and care of various types of precision instruments associated with the machining trade. Practice of basic layout and piece part measurements while using standard measuring tools.

Prerequisites/Corequisites

Prerequisite: None.

ICO's

1, 2

Course Objectives

The proper selection, use, and care of precision and semi precision measuring tools. The process of reverse engineering using precision measuring tools will be employed to make drawings of mechanical parts.

End-of-Course Outcomes

Describe common methods of measurement conversion; determine the degree of precision measurement required; identify various types of precision instruments and their applications; list maintenance procedures on various types of measuring instruments; interpret and confirm blueprint requirements; convert between English and metric units; compute total tolerances of parts; calibrate various types of precision measuring instruments to a standard; and select and use precision measurement tools.

ACADEMIC ETHICS:

Each student is expected to do their own work on the assignments, and take tests without outside assistance. If unethical behaviour is detected, by Odessa College Policy, all parties involved may either be denied credit for the project, or at the instructor's discretion, the student(s) may be dropped from the class. A report will be made to the department chairman for further action as deemed necessary by the department chair.

Required Readings/Materials

a) You must purchase the following **required** text/materials:

1. Machine Tool Practices – Ninth Edition

Richard R. Kibbe
John E. Neely

Roland O. Meyer
Warren T. White

ISBN-13: 978-0-13-501508-7

ISBN-10: 0-13-501508-1

2. Clear Lens Safety Glasses with side shields
3. 6" Steel Rule – Rigid or Flexible with square ends (Starrett - Mitutoyo)
4. Pencil and Black Pen
5. Note Book with paper
6. Calculator

All students must have equipment by the 3rd class period or arrangements made with instructor.

b) You may buy the following optional books/materials

1. Machinery's Handbook (Machinist Handbook)

Course Requirements (Lectures, Assignments and Assessments)

1. Take all tests

2. Complete all homework assignments

3. Complete all projects in assigned order

Summary of Assignments & Activities

* NOTE: The due dates are subject to change. Please check this syllabus [online](#) on a regular basis for any updates. (

| Item(Name) | Type | Description |
|---|--------------------|---|
| 1. Class Introduction, Safety, Orientation | Lecture/Video/Exam | Students will be introduced to machine program, lab safety, class requirements & terminology. |
| 2. Metrology principles | Lecture/Lab/ Exam | Machinist measurement needs and the tools for geometric dimensioning & tolerancing. |
| 3. Semi Precision measuring tool identification | Lecture/Lab/ | Identify semi precision measuring tools, use, care, & terminology. |
| 4. Precision measuring tools | Lecture/Lab/ | Identify precision measuring tools, use, care, & terminology. |
| 5. Bench & layout tools | Lecture/Lab/ | Bench & layout tools use, & care, & terminology. |
| 6. Blueprint reading | Lecture/Lab/ | Basic blueprint reading. |
| 7. Outside Micrometers | Lecture/Lab/ | Outside Micrometers use, care, & terminology. |
| 8. Inside Micrometers | Lecture/Lab/ | Inside Micrometers use, care, & terminology. |
| 9. Depth Micrometer | Lecture/Lab/ | Depth Micrometer use, care, & terminology. |
| 10. Dial Caliper | Lecture/Lab/ | Dial Caliper use, care, & terminology. |
| Vernier Caliper | Lecture/Lab/ | Vernier Caliper use, care, & terminology. |
| 11. Telescoping Gage | Lecture/Lab/ | Telescoping Gage use, care, & terminology. |
| 12. Small Hole Gage | Lecture/Lab/ | Small Hole Gage use, care, & terminology. |
| 13. Vernier Height Gage | Lecture/Lab/ | Vernier Height Gage use, care, & terminology. |
| 14. Vernier Bevel Protractor | Lecture/Lab/ | Vernier Bevel Protractor use, care, & terminology. |
| 15. Dial Indicators | Lecture/Lab/ | Dial Indicators, use, care, & terminology. |

| | | |
|---|--------------|--|
| 16. Surface Plate / Measurement & Layout | Lecture/Lab/ | Granite Plate use, care, & terminology, measurement & layout. |
| 17. Dial Bore Gages | Lecture/Lab/ | Dial Bore Gage use, care, & terminology. |
| 18. Gear Tooth Caliper | Lecture/Lab/ | Vernier Gear Tooth Caliper use, care, & terminology. |
| Final review & Cleanup | Lecture/Lab/ | Final Review. Clean Lab & Machines. |
| Final Exam | Exam | Take final comprehensive written exam. |

Grading Policy

METHOD OF EVALUATION:

| | |
|-------------------|------|
| Homework Avg. | 15% |
| Section Quiz Avg. | 20% |
| Lab Work | 40% |
| Professionalism | 10% |
| Final Exam | 15% |
| Total Grade | 100% |

90 – 100 = A

80 – 89 = B

70 – 79 = C

61 – 69 = D

Below 61 = F

Special Needs

Odessa College complies with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990. If you have any special needs or issues pertaining to your access to and participation in this or any other class at Odessa College, please feel free to contact me to discuss your concerns. You may also call the Office of Disability services at 432-335-6861 to request assistance and accommodations.

Learning Resource Center (Library)

The Library, known as the [Learning Resources Center](#), provides research assistance via the [LRC's catalog \(print books, videos, e-books\)](#) and [databases \(journal and magazine articles\)](#). [Research guides](#) covering specific subject areas, [tutorials](#), and the "[Ask a Librarian](#)" service provide additional help.

Student E-mail

Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Student Portal

Please access your [Odessa College Student E-mail](#), by following the link to either set up or update your account: <http://www.odessa.edu/gmail/>. **All assignments or correspondence will be submitted using your Odessa College email.**

Technical Support

For Blackboard username and password help and for help accessing your online course availability and student email account contact the Student Success Center at 432-335-6878 or online at https://www.odessa.edu/dept/ssc/helpdesk_form.htm.

Important School Policies

For information regarding student support services, academic dishonesty, disciplinary actions, special accommodations, or student's and instructors' right to academic freedom can be found in the [Odessa College Student Handbook](#).

The Odessa College Student Success Coaches will help you stay focused and on track to complete your educational goals. If an instructor sees that you might need additional help or success coaching, he or she may submit a Retention Alert or a Starfish Alert. A Student Success Coach will contact you to work toward a solution.

Expectations for Engagement – Online Learning

To help make the web-based learning experience fulfilling and rewarding, the following Expectations for Engagement provide the parameters for reasonable engagement between students and instructors for the online learning environment. Students and instructors are welcome to exceed these requirements.

Reasonable Expectations of Engagement for Instructors

1. As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will
 - provided my contact information at the beginning of the syllabus;
 - respond to all messages within 24 hours if received Monday through Thursday and within 48 hours if received Friday through Sunday; and,
 - notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of emergencies during the time I'm unavailable.
2. As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will
 - provide clear information about grading policies and assignment requirements in the course syllabus, and
 - communicate any changes to assignments and/or to the course calendar to students as quickly as possible.
3. As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will
 - post grades for discussion postings within one week of the discussion thread closing.
 - provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

Reasonable Expectations of Engagement for Students

1. As a student, I understand that I am responsible for keeping up with the course. To help with this, I will
 - line up alternative computer and internet access in case my primary computer crashes or my internet services is unavailable;
 - recognize that the college provides free wi-fi and computer labs during regular campus hours to help me with accessing my course; and,

- understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my equipment or service is unreliable.
2. As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to
 - getting “kicked off” of the system during tests or quizzes;
 - having trouble submitting assignments; and
 - dealing with a traumatic personal event.
 3. As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will
 - seek out help from my instructor and/or from tutors;
 - ask questions if I don’t understand; and,
 - access my course several times during the week to keep up with assignments and announcements.

Expectations for Engagement – Face to Face Learning

To help make the learning experience fulfilling and rewarding, the following Expectations for Engagement provide the parameters for reasonable engagement between students and instructors for the learning environment. Students and instructors are welcome to exceed these requirements.

Reasonable Expectations of Engagement for Instructors

1. As an instructor, I understand the importance of clear, timely communication with my students. In order to maintain sufficient communication, I will
 - provided my contact information at the beginning of the syllabus;
 - respond to all messages in a timely manner through telephone, email, or next classroom contact; and,
 - notify students of any extended times that I will be unavailable and provide them with alternative contact information (for me or for my supervisor) in case of emergencies during the time I’m unavailable.
2. As an instructor, I understand that my students will work to the best of their abilities to fulfill the course requirements. In order to help them in this area, I will
 - provide clear information about grading policies and assignment requirements in the course syllabus, and
 - communicate any changes to assignments and/or to the course calendar to students as quickly as possible.
3. As an instructor, I understand that I need to provide regular, timely feedback to students about their performance in the course. To keep students informed about their progress, I will
 - return classroom activities and homework within one week of the due date and
 - provide grades for major assignments within 2 weeks of the due date or at least 3 days before the next major assignment is due, whichever comes first.

Reasonable Expectations of Engagement for Students

1. As a student, I understand that I am responsible for keeping up with the course. To help with this, I will
 - attend the course regularly and line up alternative transportation in case my primary means of transportation is unavailable;
 - recognize that the college provides free wi-fi, computer labs, and library resources during regular campus hours to help me with completing my assignments; and,
 - understand that my instructor does not have to accept my technical issues as a legitimate reason for late or missing work if my personal computer equipment or internet service is unreliable.
2. As a student, I understand that it is my responsibility to communicate quickly with the instructor any issue or emergency that will impact my involvement with or performance in the class. This includes, but is not limited to,
 - missing class when a major test is planned or a major assignment is due;
 - having trouble submitting assignments;
 - dealing with a traumatic personal event; and,
 - having my work or childcare schedule changed so that my classroom attendance is affected.
3. As a student, I understand that it is my responsibility to understand course material and requirements and to keep up with the course calendar. While my instructor is available for help and clarification, I will
 - seek out help from my instructor and/or from tutors;
 - ask questions if I don't understand; and,
 - attend class regularly to keep up with assignments and announcements.

The SEI process for face-to-face and online courses is scheduled for the week of November 26th.