

Oklahoma State University Institute of Technology
Face-to-Face Common Syllabus
Fall 2017

WMT 1326 MECHANICAL WATCH REPAIR

Emphasizes the operation, design, and theory behind the modern mechanical watch movement. Classroom exercises prepare the student for diagnosis, repair, and maintenance of movement systems including: winding and setting mechanism, the barrel and mainspring, as well as understanding and analysis of functional principles of the gear train of modern mechanical watch movements. Students focus on complete watch service, quality and understanding the culture and craftsmanship behind complete watch service, culminating in the creation of the school watch.

Course Purpose:

The purpose of this course is to prepare the students for complete service of mechanical watches with complications like calendar mechanism and automatic mechanism. Working on the training watches helps the students understand the theories they learn about the principles, functionalities and adjustments of different systems and complications of a mechanical watch. Making the school watch serves as the capstone project for the micromechanics techniques and skills the students have learnt throughout the year and also how to connect those in real life watches.

Type of Course: Theory/Lab

Credit Hours: 6 ; Total clock hours of theory per semester: 78;

Total clock hours of lab per semester: 156; (assuming 36 days of classes)

Total clock hours of clinical per semester: N/A.

Class Length: 2nd half of the semester

Class Days and Times: 7:30-10:55 12:30-3:35 M - F

Prerequisites: WMT 1316 Quartz Watch Repair

Instructor Name: Ahmed Ashraf

Instructor Phone: (918) 293-5180

Office: DWRTC # 237

Instructor Email: asif.ashraf@okstate.edu

Contact: My preferred method of contact is via email. Please allow 24-48 hours to return your correspondence during the normal work week.

Instructor's Office Hours: 7:00am-7:30am and 3:30pm-4:00pm

School Name: School of Watchmaking

School Main Phone: 918-293-5342

REQUIRED TEXT, REFERENCES, AND MATERIALS

Texts: The Theory of Horology, Swiss Federation of Technical Colleges,
2940025126

References: N/A

Materials: Textbook, binder, paper, writing utensils, thumb drive, etc.

Uniform/Tools: N/A

Estimated Cost for Materials: \$ 35
Estimated Cost for Uniform/Tools: N/A

Optional Resources: N/A

Upon completion of the course, students should:

Course Objectives	Assessment of Objectives
Identify using correct nomenclature automatic movements and parts	Assignment (watch Service and part requisition)*
Identify perpetual calendar, moon phase, minute repeater, tourbillion, karussel and power reserve features	Quiz and Assignment (watch Service and part requisition)*
Identify the system of the automatic mechanism using correct nomenclature	Quiz and Assignment (watch Service and part requisition)*
Diagnose and repair watches with movements utilizing the complication of chronographs	Quiz and Assignment*
Formulate a procedure for utilization of all parts tracking	Quiz and Assignment*
Judge personal scope of business and formulate for growth	Portfolio and Assignment*
Formulate strategies to communicate object to technical blue print or drawing	Portfolio and Assignment*
Understand precision work in micromechanics by starting and continuing the School Watch Project	Checking the progress of the School Watch Project and Documenting it in the Portfolio
Identify the relevant functional features of watch components complications	Assignments and School Watch Project
Assess functionality of watch components and systems to industry standards	Assignment and School Watch Project

Aspects of the course objective assessments may be used in the university's assessment of student learning. If applicable, an asterisk (*) above indicates this assignment is used in the university assessment program.

(Please asterisk the assignment above if utilized for the assessment assignment.)

COURSE ACTIVITIES

In this course students will:

- Participate in class discussions and activities.

- Apply theoretical knowledge through projects that are assigned daily and utilized as academic assignments. These projects will include various mechanical movements or watches with or without complications such as automatic mechanism, chronograph functions or complicated calendar mechanisms. Projects may or may not include case components and/or bracelets for cleaning, repair or refinishing.
- Complete school watch project as outlined.
- Participate in classroom discussions regarding theory and assignments.
- Complete homework assignments to supplement theory, historical and/or practical goals.
- Take quizzes.

EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:

Academic Assessments .	33%
Quiz.....	33%
School Watch Project.....	34%
Total	<u>100%</u>

OSUIT Grading Scale	
A =	90%-100%
B =	80%-89%
C =	70%-79%
D =	60%-69%
F =	59% & below

*The student’s grade for this assignment will be used in the university’s assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student’s course grade.

GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS:

1. Academic Assignments –33%

You will be handed a number of assignments to be completed during the course. As the focus, breadth and scope of each assignment will be different, each assignment will require a different set of specific criteria to be assessed. Therefore, each assignment will be accompanied with specific grading criteria to be used for that assignment. At the end of the course, all assignment grades are averaged together with equal weight into one percentage grade.

2. Quizzes – 33%

At the end of the course, all quiz grades are averaged together with equal weight into one percentage grade.

There are 3 classifications of quiz:

a. Theoretical

- i. This is typically a written quiz consisting of short answer and/or diagrammatic answers. Quizzes typically range from 5-10 questions.

Subject matter of each quiz may be anything previously covered in class or in a homework assignment. Each question is worth an even percentage of 100 points unless otherwise specified on the quiz. Theoretical quizzes are graded as an accumulation of points scored per answered question.

b. Practical

i. This is typically a performed exercise consisting of the creation/modification/repair of (an) object(s). As the focus, breadth and scope of each practical quiz will be different, each quiz will require a different set of specific criteria to be assessed. Therefore, each quiz will be accompanied with the specific grading criteria to be used for that assignment. Subject matter of each quiz may be anything previously covered in class or in a homework assignment.

c. Inspection

i. This is intended to pop quiz the student's readiness to perform properly. Typically, an inspection quiz consists of an inspection of one to all of the tools and/or equipment a student has in their charge for proper working order and condition. Inspection quizzes are graded on the 6-point scale. Students must maintain above a 4 in the following range of grades to receive a passing mark:

6	The inspected item(s) are in perfect order and condition.
5	The inspected item(s) are in working order and condition, but show slight signs of cosmetic wear or are dirty.
4	The inspected item(s) are technically in working order and condition, however are showing heavy signs of wear, excessively dirty or disorganized.
3	The inspected item(s) are technically in working order and condition, however are quite damaged, excessively dirty or disorganized.
2	The inspected item(s) are technically in working order and condition, however are excessively damaged, excessively dirty, disorganized or pieces missing from sets.
1	The inspected item(s) are in non-working order or condition.

3. School watch project – 34%

The school watch project will be assessed at the end of each stage of the project. Meeting the final deadline on December 16th will constitute for 33.33% of the final grade. You will be assessed on the progress and functionality of the school watch project at each stage of the project as defined by the checkpoint. This assessment will include both the aesthetics of the watch as well as the mechanical working parameters of the movement.

Daily and/or weekly quizzes, small weekly assignments and similar type projects: Normal return time to student by next class meeting or no later than one (1) week.

Extensive assignments, large lab projects, extensive quizzes, exams and similar type projects: Normal return time to students in one (1) to two (2) weeks.

RECOMMENDED STUDENT COMPETENCIES/SKILLS

PowerPoint, basic computer skills (emails, browsing in YouTube etc)

AUTHORIZED TOOLS

Students are encouraged to use any/all course materials, including books and notes, while participating in classroom activities. Electronic devices are permitted so long as they are utilized for class purposes and not disruptive to other students or detrimental to the student themselves. Students are expected to treat all tools with respect. If a student has not been trained on a piece of equipment, he or she is not authorized to use it. All quizzes and written assignments are to be completed independently; no collaboration with classmates is permitted and any instance of such will be considered academic dishonesty unless class is notified the assignment is to be collaborative.

LATE WORK

No late work will be accepted without prior approval and will be scored as a zero. Work is to be completed within the timeframe communicated. Work completed outside of this parameter is considered late.

TESTING

Loud noises or disruption of classroom is not permitted during quizzes or exams. Disruption to other students or the classroom is not permitted and may result in your removal from the classroom and discontinuation with testing.

Students are expected to complete all quizzes and theory exams both program and certification, independently without the use of any course materials, books or notes. All theory exams will have a time limit to complete the quiz and also a clarification time prior to starting any quiz or exam where any unclear questions can be discussed.

Students are expected to complete all practical exams both program and certification independently without the use of any course materials, books or notes. All practical exams will have a time limit to complete the exam and also a clarification time prior to starting any quiz or exam where any unclear questions can be discussed. The watch or movement is assigned as complete and intended for service, any parts requested or required to complete the service is documented and may affect grading as the repair would incur additional costs in the real world.

OTHER LAB AND CLASSROOM POLICIES

(Indicate any rules/guidelines for your course.)

SYLLABUS ATTACHMENT

View the Syllabus Attachment, which contains other important information, by visiting http://osuit.edu/center/student_syllabus_information

Course Schedule			
Course Outline Schedule	Topic	Assignment	Due Date
Week 1	SAWTA II intermediate Exam, Exam Feedback, Starting School Watch Project	Inspection of the tools and equipment	Due dates daily per assignment
Week 2	Precision Lubrication of Mechanical Watches and Introduction of Automatic Mechanism, School Watch Project	Servicing Calibre 2824 and Function Check of Mechanisms, Keeping Records in the Portfolio for the School Watch Project	Due dates daily per assignment
Week 3	Detailed Theory of Automatic Mechanism, School Watch Project	Quizzes on Automatic Mechanism and Assignment of Automatic Watch Repair, Keeping Records in the Portfolio	Due dates daily per assignment
Week 4	Differences between Different Types of Automatic Mechanism and Lubrication Principles, School Watch Project	Quizzes and Assignments	Due dates daily per assignment
Week 5	Practicing Escapement Lubrication and Identifying Instantaneous, Semi-instantaneous and Non-instantaneous Shift of Calendar Mechanism, School Watch Project	Quizzes and Assignments, Keeping Records in the Portfolio	Due dates daily per assignment
Week 6	Identifying of complications in mechanical watches, School Watch Project	Quizzes and Assignments	Due dates daily per assignment
Week 7	Watch Repair with Parts Order, School Watch Project	Quizzes and Assignments	Due dates daily per assignment
Week 8	Refinishing Bracelets, Working on the new calibre, Parts Organization, School Watch Project	Quizzes and Assignments	Due dates daily per assignment

Schedule is subject to change at instructor discretion.