

# **MEC 225: Fundamentals of Machining Practices**

## **Instructors:**

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## **Class Location:**

Student Machine Shop  
Engineering Building: Room 009

## **Course Description:**

*“Hands-on experience in the fundamentals of machining including metrology tools and devices, saw, sheet metal working, drilling, reaming, tapping, turning, boring, milling. This course has an associated fee. Please see [www.stonybrook.edu/coursefees](http://www.stonybrook.edu/coursefees) for more information.*

*Pre- or Co-requisite:* MEC 203

Prerequisite: MEC major or permission of instructor

1 credit”

## **Required Course Materials and Fees:**

The laboratory fee for this course is \$50. Paid as part of your tuition and fees. Students are expected to purchase the following items for use in class:

1. Impact Resistant Safety Glasses, Must be ANSI Z87.1 compliant
2. Dial Caliper, 6 inches

**Attendance Policy:**

Attendance for this course is mandatory. Attendance, besides being physically present, includes participating in class work, showing up to class prepared (i.e dressed in appropriate shop clothing, bringing necessary course materials). Lateness, lack of housekeeping, and/or forgetting required materials shall result in attendance grade for that day to be deducted. This course will allow up to 2 **unexcused** absences, anymore than 2 unexcused absences, each absence following the second will result in a 'F'. There are no make-ups for missed class time, students are responsible for finishing the project in a timely manner.

In the event of a short-term absence from class, students are encouraged to communicate immediately and work directly with instructors. However, if a student is struggling with an extended absence due a hospitalization, family illness or death, they are encouraged to reach out to the Student Support Team.

**Behavior Policy:**

The instructor reserves all rights and privileges to dismiss the student from the classroom at any time for any reason. Grounds for dismissal include, but are not limited to, failure to follow the instructor's directions, disrespect for lab equipment, and unruly behavior. A dismissal of this kind will result in a grade of zero for that day's work. There will be no make ups available for class time or assignments missed due to this policy.

**Course Learning Objectives:**

1. Understand and develop the habit of following all safety rules.
2. Use and read Dial Calipers and Height Gauge for dimensional accuracy.
3. Ability to appropriately select hand tools.
4. Ability to perform basic operation of a vertical milling machine.
5. Ability to perform basic operation of an engine lathe.
6. Ability to use a bandsaw.
7. Ability to use a sheet metal shear and brake.

**Grading Policy:**

**Safety, Housekeeping, Polishing:** 25%

**Milling Operation:** 25%

**Lathe Operation:** 25%

**Sheet Metal Work:** 5%

**MEC 225 Race Day:** 15%

**Course Schedule:**

Class 1:	Introduction to course. Syllabus review, overview of shop rules and safety, housekeeping rules.
Class 2:	Instruction on reading caliper, taking measurements and use of height gauge.
Class 3:	Start and finish sheet metal work.
Class 4:	Instruction of using Milling Machine. Students will begin practice pieces. Students will finish practice blocks and begin final project.
Class 5-11	Students will continue to work on milling machine and <b>must finish by 11<sup>th</sup> class</b> . Instruction of using Milling Machine. Students will begin practice pieces.
Class: 9-14	Students will be instructed on Lathe at own pace after they finish milling, students must finish project <b>no later than the 14<sup>th</sup> class</b> .
Class 15:	Preparation for MEC 225 Race Day

**\*\*\*Grade is subject to change in accordance to the behavior and attendance policy\*\*\***

**Student Accessibility Support Center Statement**

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at [sasc@stonybrook.edu](mailto:sasc@stonybrook.edu). They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

**Academic Integrity Statement**

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school specific procedures. For more

comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at [http://www.stonybrook.edu/commcms/academic\\_integrity/index.html](http://www.stonybrook.edu/commcms/academic_integrity/index.html)

### **Critical Incident Management**

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.