Moberly Area Community College  
Common Syllabus  
MTH 135 Advanced Technical Mathematics  

**Current Term**

**Instructor:**  
Office number:  
Office hours:  
Contact information:  
Classroom number:  
Class days and time:  

**Catalog Description:** MTH135 Advanced Technical Mathematics  
Advanced technical Mathematics is designed for students in technical programs needing additional mathematics topics including exponents and logarithms, matrices, progressions and the binomial theorem, and statistics for process control. The emphasis is on technical applications. 130. (FA, SP)

**Prerequisite:** MTH 130 Technical Mathematics

**Text:**  
Title: Technical Mathematics w/ CD (Moberly)  
Author: Ewen  
Edition: 2nd  
Publisher: Pearson  
ISBN: 0-13-048810-7

**Other Materials Required:** Calculator, general purpose

**Purpose of Course:**  
This course is designed to present mathematics in applied situations appropriate to technical fields. It involves process and problem solving skills arising from the use of machine power, electrical power, current prices, and practices in the work force.

**Course Objectives**  
Upon successful completion of this course, students will be able to:

Show competencies in math functions with fractions, decimal fractions, percentages, and solving word problems.

**Industrial Technology & Welding and Metals Technology:**  
1. Demonstrate a methodical approach to problem analysis and use of accepted practices in solving technical problems.  
2. Be able to perform acceptable mathematical algebraic calculations to an acceptable level  
3. Perform precision measurement requiring no supervision  
4. Perform basic calculations for statistical process control

**Drafting Design Technology:**  
1. Perform metric conversions
2. Understand and solve basic trigonometric functions
3. Be able to compute basic materials strengths
4. Be able to compute ratios and proportions
5. Perform precision measurements

**Industrial Electricity/Electronics Technology:**
1. Perform basic electrical calculations using ohm’s law
2. Perform basic electrical power requirements calculations
3. Conduct basic mathematical calculations for programmable logic control operations
4. Perform electric motor sizing calculations
5. Perform metric conversions

**Course Content:**

1. Review Fundamental Concepts
2. Review of Geometry
3. Exponents and Radicals
4. Exponentials and Logarithms
5. Matrices
6. progressions and the Binomial Theorem
7. Basic Statistics

**Assessment of Student Learning**

**Grading:** Grades will be based on the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>90 - 100%</td>
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<tr>
<td>B</td>
<td>80 - 89%</td>
</tr>
<tr>
<td>C</td>
<td>70 - 79%</td>
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<tr>
<td>D</td>
<td>60 - 69%</td>
</tr>
<tr>
<td>F</td>
<td>59% and below</td>
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</tbody>
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Homework 35%
Unit Tests 35%
Midterm Exam 15%
Final Exam 15%

**Description of Major Assignments:** per instructor’s policy

**Statement to Connect Course with General Education Outcomes or Technical Program Outcome Statement:**

II. Demonstrate an understanding of scientific principles and computational skills and how to use them to solve problems and make informed decisions.

**Instructor Policies:**

**Attendance Policy:** Any student who misses two consecutive weeks of class during a regular sixteen-week semester or the equivalent proportion of class time during a shorter session will be dropped from the class by the instructor unless acceptable justification is supplied. An instructor must complete and file the appropriate forms to drop the student within one week following the student’s violation of the attendance policy. Additionally, any student who misses more than one-fourth of the entire number of in-seat class meetings in a regular 16-week semester or the equivalent proportion of class time during a shorter session, may be dropped from that class by the instructor if, in the opinion of the instructor, the student does not
have reasonable opportunity to succeed in the class. A student’s attendance rate will be calculated based upon the first day of the semester (not the student’s date of enrollment in the course.)

Student attendance must be defined in a different manner for online, hybrid, and virtual courses. Student attendance in these courses is defined as active participation in the course. Online, hybrid, and virtual courses will, at a minimum, have weekly mechanisms for student participation, such as any or all of the following methods:

a. Completion of quizzes or exams  
b. Submission of assignments  
c. Participation in threaded discussions  
d. Communication with the instructor  

A student who does not participate in an online, hybrid, or virtual course for two consecutive weeks will be dropped by the instructor unless acceptable justification is supplied. An instructor must complete and file the appropriate forms to drop the student within one week following the student’s violation of the attendance policy. As with ground courses, a student’s attendance rate in online courses will also be calculated based upon the first day of the semester. If a student does not demonstrate active participation in the online course within the first two weeks (or the equivalent proportion of class time during a short session), the student will be dropped as “never attended.” Simply logging into an online class does not constitute active participation.

Students should be aware that their dropping a course and their last date of attendance in the course may impact their financial aid. (Policy Handbook I.090 and M.095)

Tardiness: per instructor’s policy
Make-up and late work: per instructor’s policy
Extra-credit work: per instructor’s policy

Student Email: MACC Mail is the official student email system at MACC. Official college communication is sent via this email system. Students are responsible for checking their MACC Mail account regularly. Students may also receive notifications and reminders from MACC through the online learning platform. However, students should remain aware that the online learning platform messaging system and MACC Mail (student email) system are two separate systems.

Schedule of Student Assignment/Activities: per instructor’s policy

ADA Statement: Students who have disabilities that qualify under the Americans with Disabilities Act may register for assistance through the Office of Access and ADA Services. Students are invited to contact the Access/ADA Office to confidentially discuss disability information, academic accommodations, appropriate documentation and procedures. The Office of Access and ADA Services is located in the Main Library and the phone number is (660) 263-4110 ext. 240.

Title IX Statement: MACC maintains a strict policy prohibiting sexual misconduct in any form, including sexual harassment, sexual discrimination, and sexual violence. All MACC employees, including
faculty members, are considered mandated reporters of sexual misconduct and as such are expected to contact the Title IX Coordinator when they become aware, in conversation or in writing, of an incident of sexual misconduct. For more information on this policy or to learn about support resources, please see http://www.macc.edu/sexual-misconduct-policy or contact Dr. Jackie Fischer, MACC’s Title IX Coordinator, at 660-263-4110, ext. 11236 or jackief@macc.edu.