ENR 125 – Computer Programming for Engineers
County College of Morris
Spring 2014

Department Chair: Professor V. Fuentes
(973) 328-5766, Sheffield Hall 303

Syllabus

Course Description:	A course in structured and object-oriented programming, emphasizing engineering applications and numerical methods in assignments. Program assignments are coded and are implemented on personal computers.
Course Materials:	MATLAB 8.1 (R21013a) No textbook required.
Optional Materials:	1. Holly Moore, *MATLAB for Engineers*, 3rd Ed., Prentice Hall 2. Stormy Attaway, *MATLAB: A Practical Introduction to Programming and Problem Solving*, 3rd Ed., Elsevier 3. Atkinson & Han, *Elementary Numerical Analysis*, 3rd Ed., Wiley
Instructor:	Mary Anne Wassel, mwassel@ccm.edu, (973) 328-5721
Office Hours/ Location:	Monday/Wednesday 12:00pm – 1:45pm in SH273A or by appointment only. Appointments must be scheduled at least 24 hours in advance. NO walk-ins except during office hours.
Class Time/Location:	Lecture Tuesday 10:50am – 12:30pm, SH 164 Lab Thursday 10:50am – 12:30pm, EH 210
Prerequisite:	MAT 123 Precalculus
Course Objective:	Upon completion of the course, the engineering student who enrolled with little or no computer background will have mastered the tenets of structured language-independent program development. The student will have demonstrated competence in: • The writing of pseudocoded algorithm descriptions. • Reading pseudocoded algorithms with understanding. • The implementation of algorithms using MATLAB as a representative object-oriented coding language. • Selected specific algorithms for curve fitting, numerical integration, numerical differentiation, and equation solving.

Course Outline: Lecture

Week 1: January 14	About MATLAB; MATLAB Environment
Week 2: January 21	Built-In MATLAB Functions
Week 3: January 28	Manipulating MATLAB Matrices
Week 4: February 4	Plotting
Week 5: February 11	User-Defined Functions
Week 6: February 18	User-Controlled Input and Output
Week 7: February 25	Logical Functions
Week 8: March 4	Control Structures
Week 9: March 18	Midterm Exam Review
Week 10: March 25	Matrix Algebra
Week 11: April 1	Applications: Bisection Method
Week 12: April 8	Applications: Interpolation
Week 13: April 15	Applications: Solutions of Systems of Linear Equations
Week 14: April 22	Applications: Least Squares Data Fitting
Week 15: April 29	Final Exam Review

Course Outline: Laboratory

Week 1: January 16	About MATLAB; MATLAB Environment
Week 2: January 23	Built-In MATLAB Functions
Week 3: January 30	Manipulating MATLAB Matrices
Week 4: February 6	Plotting
Week 5: February 13	User-Defined Functions
Week 6: February 20	User-Controlled Input and Output
Week 7: February 27	Logical Functions
Week 8: March 6	Control Structures
Week 9: March 20	Midterm Exam
Week 10: March 27	Matrix Algebra
Week 11: April 3	Applications: Bisection Method
Week 12: April 10	Applications: Interpolation
Week 13: April 17	Applications: Solutions of Systems of Linear Equations
Week 14: April 24	Applications: Least Squares Data Fitting
Week 15: May 1	No Lab

Course Policies

Grading:

Quizzes	20%
Laboratory	20%
Midterm Exam	25%
Final Exam	25%
Attendance and Participation	10%
TOTAL	100%

Email:
The instructor, per the Family Educational Rights and Privacy Act (http://www.ed.gov/policy/gen/guid/fpco/ferpa/index.html), may not reply to any email unless it comes from a CCM email account.
All emails must be courteous. Students must specify ENR 224 in the subject heading so the instructor may more effectively provide assistance. A response from the instructor will be provided within 24 hours. Emails received after 8pm will receive responses the next day.

Practice Problems:
Suggested practice problems will be posted weekly on BlackBoard. They will not be collected, and it is the student's responsibility to ensure correct answers.

Quizzes:
Quizzes will be administered during the first fifteen minutes of class every Thursday. They will begin promptly at 10:50am. Students arriving late will not be permitted to take the quiz. An equation sheet and all relevant tables will be provided with every quiz.

Exams:
On each and every exam, the student must hand-write and sign a statement regarding academic integrity (see full policy below). If the statement is not handwritten, and/or signed, within the exam's deadline, the exam will not be graded and the student will receive a zero for it. There are no exceptions to this policy.
All exams are closed notes. An equation sheet and all relevant tables will be provided with every exam. The final exam will be cumulative, focusing more heavily on material covered after the first midterm exam.

Solutions, Make-ups, and Extra Credit:
Solutions to practice problems/quizzes/exams will not be posted – see instructor during office hours or by appointment to discuss them. No make-up quizzes/exams/term projects under any circumstance. Extra credit may be given at the instructor's discretion.

Attendance and Participation:
The Attendance and Participation grade is based on class attendance frequency and in-class behavior. All students are expected to be courteous to the instructor and their fellow classmates. Your respectful attention is required throughout the course. Any inappropriate or disruptive verbal and/or non-verbal behavior will result in a conference with the instructor and, depending on severity, may result in ejection from class for the day or the semester. More than three unexcused absences will result in automatic failure of the course. Three unexcused instances of tardiness count as one absence.

Using Electronic Devices:
Aside from laptops for in-class note-taking, no personal electronic devices (cell phones, cameras, etc) are allowed to be used in the course without the instructor's permission. Students must submit written requests with a relevant reason, and the instructor must

provide written consent to enable usage. Usage of electronic materials without consent, depending on severity, may result in ejection from class for the day or the semester.

Academic Integrity

Why Have a Policy?

In all fields of study, it is important to denote one's own work. From it, you can derive a sense of pride and purpose. It also enables instructors to accurately assess your work and accomplishments. But engineering, unlike other fields, has a primary aim to develop technology that is **safe**. By submitting work that isn't your own, you are not being honest about your abilities and your understanding of the material. If you dupe others into thinking you know more than you do, you will impacting more than your own grades - you'll affect other people's time, money, and lives as well.

Official CCM Policy

In order to maintain academic integrity at County College of Morris, the college community will not tolerate any forms of academic dishonesty. Examples of unacceptable forms of dishonesty include cheating, copying, fabrication, plagiarism, unauthorized collaboration, submitting someone else's work as one's own; dishonesty through the use of technology such as sharing disks, files, or programs; access to, modification of, or transfer of electronic data, system software or computing facilities. The intent of this policy is to promote academic integrity, and to arrest all forms of academic dishonesty.

Consequences

When incidents of academic dishonesty occur and the faculty member chooses to submit a formal complaint of the incident to the Office of Student Development & Enrollment Management, the Vice President will refer the complaint to the Academic Integrity Review Board, which is composed of faculty, academic administrators, and the Vice President of Student Development & Enrollment Management. The Academic Integrity Review Board will review the circumstances surrounding the incident and make a recommendation of appropriate disciplinary action. Penalties imposed on the student who violates this policy may vary from failing the unit of work to expulsion from the college.

Exam Protocol

On each exam, the student must write **and** sign the following statement:

> "I certify that I neither received nor gave any outside assistance in the completion of this exam. I understand that, should it be determined that I used any unauthorized assistance or otherwise violated CCM's Academic Integrity Policy, I will receive an academic penalty and be referred to the Office of Student Development and the Academic Integrity Review Board for additional disciplinary action."

The exam will not be graded if the statement is not signed or handwritten.

Cell phones must be turned in prior to every exam. They will be returned upon exam completion.

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Date

Sample Examination Sheet

Print the following statement below:

I certify that I neither received nor gave any outside assistance in the completion of this exam. I understand that, should it be determined that I used any unauthorized assistance or otherwise violated CCM's Academic Integrity Policy, I will receive an academic penalty and be referred to the Office of Student Development and the Academic Integrity Review Board for additional disciplinary action.

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Print Name _____

Signature _____