

Instructors: Lecture: Jerry C. Hamann Lab:
 Office: EN 2079 or EN 5036
 Office Hours: MW 9:00–9:50, MTW 2:10–3:00
 Mailbox in EN 5068: HAMANN
 Email: hamann@uwyo.edu
 Phone: 307-766-6105 or 766-6321

Text: *Introduction to Engineering Problem Solving*, McGraw-Hill Primis Custom Publishing, ISBN 978-8-390-76595, with content from the following:
 Engineering Fundamentals and Problem Solving, 5th Ed., Eide et al,
 Spreadsheet Tools for Engineers Using Excel, 3rd Ed., Gottfried,
 Excel VBA Macro Programming, 1st Ed., Shepherd.

Supplies: *ES 1060 Class Kit Contents*, available at UW Bookstore or as individual items at various local stores. Contents include three-ring binder, tab dividers, USB jump-drive, paper, mechanical pencil, eraser.

Meeting Times: Lectures for Sections 01 and 02: MW 1:10-- 2:00 in EN 3114
 Labs for Section 01: T 8:00-- 9:50 in EN 1039
 Labs for Section 02: T 10:00--11:50 in EN 1039

Grading:

Three Hour Exams	40%
Final Exam	15%
Homework	15%
Laboratory	25%
<u>Notebooks, Disks</u>	<u>5%</u>
Total	100% (A ≥ 90, B ≥ 80, C ≥ 70, D ≥ 60, 60 > F)

Prerequisites: Students should have completed MATH 2200 (Calculus I) with a grade of C or better, or students may be concurrently enrolled in MATH 2200. **Prerequisite status must be confirmed on the Engineering Science Program Sign-up Sheet during the first week of class.**

Calculator: Computations required for completion of the homework and exams demand a scientific calculator with trigonometric and logarithm capabilities. The solution of simultaneous linear equations is also required, with calculators such as the TI-86 recommended. Students are responsible for knowing and utilizing their own calculator.

Exams: Examinations will be given on the days noted on the Course Schedule, unless circumstances dictate a change which will be announced in class. It is not possible to make up a missed exam without a University Excused Absence.

Homework: Homework sets will be given on a near daily basis, with due dates as shown on the Course Schedule. **Assignments must be handed in no later than the start of class on the specified due date. No credit will be given for late assignments.** Solutions to the homework will be posted on the ES 1060 Web Site accessible from WyoWeb. Typically one or two problems from each set will be graded; students are responsible for verifying the solutions of the remainder.

Laboratory: **Attendance at and satisfactory completion of all labs is required.** Lab exercise instructions are available for viewing and printing on the class website. **A Lab Final Exam will be given during the last week of classes.**

Issues of Expected Academic Practice: Students are encouraged to discuss course topics and assignments with one another. However, **the homework, lab and exam solutions turned in by each student must consist of that individual's own work** as noted in the University Regulations (e.g., UNIREG 802). **Representing another individual's work as one's own is considered academically dishonest and will result in a grade of F (failure) for the course.**

Additional Policies and Expectations

Exceptions, if possible, must be arranged in advance with the instructor.

1. Electronic mail, as registered with the University of Wyoming Office of the Registrar (WyoWeb and Banner), will be utilized frequently for course information and some assignments. Be sure to register your email and check it frequently.
2. The course website will be used to provide details of assignments, including supplemental materials, solutions, as well as grade summaries. The student is expected to become familiar with accessing the site and using it on a daily basis.
3. **Laboratory attendance is mandatory.** Students must be on time, turn in or demonstrate assigned prelabs at the start of the lab period, and stay the entire period. If all work is completed before the end of the period, it must be submitted to the TA and approved before the student leaves.
4. Laboratory reports are due no later than the **beginning** of the next week's laboratory period, unless otherwise specified. **Late lab reports will receive no credit. Failure to adequately complete a lab exercise will result in a semester grade deduction of one letter grade per inadequate lab.**
5. All homework and laboratory work must be submitted in the format outlined in the textbook (Eide et al, Chapter 2) and as modified by the instructor (refer to Hwk Set #00). **The page header information, identifying the student and assignment, must be strictly followed.** The complete problem description, pertinent theory, assumptions, solution and conclusions must be clearly stated. **All collaborators must be identified and listed at the appropriate location(s) in the assignment.**

Hand Written Assignments: Use dark pencil lead for all written work. Annotated computer output should be neatly appended as necessary. All appended output must be appropriately labeled and referenced.

Email Electronic Assignments: Electronic assignments submitted by email must follow strict file naming and subject line conventions, as described by the instructor.

6. Homework is due at the **beginning** of the specified lecture period. **Late homework will not be accepted.** Reading assignments, as specified on the Course Schedule, should be completed prior to the associated class or lab.
7. The homework and lab grader is given full authority to reject, without grading, homework or lab reports which are not presented in the required format, with attention to neatness and clarity.
8. **A course notebook must be kept and will be periodically evaluated.** The notebook should be divided into five sections: (1) Information (Identification of Student, Contact Information, Course Schedule, Course Syllabus and Policies), (2) Lecture Notes, (3) Homework Assignments, (4) Exams, (5) Laboratories.
9. All computer work should be stored on two separate media at a minimum. The media should be organized hierarchically with folders for Homework and Laboratories, then subfolders for each particular assignment. The media must be submitted with the course notebook when periodic evaluation occurs.
10. Students are expected to observe all rules and regulations regarding use of computing resources on the campus of the University of Wyoming. Illegal and unethical use of computing resources will be dealt with according to the appropriate University, State and/or Federal regulation.

Summary Course Objectives

At the end of the semester, the ES 1060 student will demonstrate the ability to present simple engineering problem solutions using a combination of software tools, including Microsoft Word and Excel. Specifically, students will be able to solve small fully described systems of consistent linear equations using linear algebraic methods, and small consistent systems of nonlinear equations using packaged solver tools. The student will demonstrate concise and unit-consistent descriptions of measured data sets involving one dependent variable, including simple statistical measures, appropriate graphical presentation on linear as well as logarithmic axes, and parametric model fits and measures of goodness of fit. The student will author simple Visual Basic for Applications functions and subroutines using sequential, looping and decision constructs.