ENGR 326
Spring 2021

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Course Description: Computational Methods for Environmental Engineering III. Numerical methods for linear and differential equations used in environmental engineering analysis, design and resource management problems. Course primary outcomes C, E, and K; secondary outcomes A.

Prerequisites: ENGR 325, ENGR 331 or ENGR 333.

Text: 1) Chapra, S and R. Canale, 2014. *Numerical Methods for Engineers, 7th Edition.*

2) Nagle, R., E. Saff, and A. Snider, 2000. *Fundamentals of Differential Equations.*

Grading: Homework and Labs 25% (see Lab Grades note below)
Midterm exam (March 9) 25%
Term Project (Due Friday, May 7 at 5:00 PM) 25%
Final exam (Monday, May 10, 10:20–12:10) 25%

Late Papers: 80% off if late, 100% off if more than one week late. Late Term Project reports are not accepted.

Lab Grades: A score of at least 55% is required for each of the four grading categories (Midterm, Final, HW/Labs, and Project) to receive a grade of at least C- in the course. The report associated with numerical methods labs will count for 50% of the points on that assignment. Results presented in your lab report must be from your work and not the output from other students. **All** numerical methods lab assignments that include a report must receive a score of at least 50 percent from the writing instructor to receive a course grade of C- or above. All writing assignments associated with the term project **must** be turned in on time. **Any** late project assignments or a project assignment receiving a score of less than 25 percent will result in the grade for the **entire** project to be recorded as a zero.

Academic Honesty: The ERE department and the university policy regarding academic honesty is **strictly upheld**. Any student found to violate this policy will receive an automatic **F** grade on the assignment, will face disciplinary action by the University, and will almost always receive a disciplinary F grade in the course. The department academic honesty policy can be viewed at
   `http://engineering.humboldt.edu/ere-academic-honesty-policy`
The university academic honesty policy can be viewed at
   `http://www.humboldt.edu/studentrights/academic_honesty.php`
The policy regarding use of campus computing resources can be viewed at
   `http://www.humboldt.edu/its/policy`

Last Day to Drop: Without serious and compelling reason: February 8
Withdrawal with a serious and compelling reason: April 5

Disability Services: If you have any type of disability that may hamper your full participation in course activities, it is your responsibility to inform me of your need for accommodations as soon as possible. I expect to hear from you within the first two weeks of the semester so that appropriate accommodations can be arranged. Complete information on the services available at HSU can be found at the Student Disability Resource Center (SDRC) in Campus Events Field 4/5, 826-4678 (voice) or 826-5392 (TDD) or their website `http://disability.humboldt.edu`. Some accommodations may take up to several weeks to arrange.

If you qualify for extra time on exams or need other accommodations, it is your responsibility to obtain and provide me with the academic adjustments form from the SDRC. The form must be presented to me in a timely manner (strongly recommend submitting at the beginning of the semester) so appropriate arrangements can be made in advance for all exams. It is strongly recommended that you communicate accommodation and scheduling arrangements approximately one week prior to each exam.

Lab Information: ERE Server Name: vlinux.humboldt.edu
Information and download site for ssh access software:
  `http://www.humboldt.edu/its/sftp`
Tech Guides for students using HSU technology resources:
  `http://www.humboldt.edu/its/students`
Scilab software and documentation: `http://scilab.org`
GNU Fortran Compiler (gfortran) (free - Windows, Mac, and Linux):
  `http://gcc.gnu.org/wiki/GFortran`
Simply Fortran Integrated Development Environment (not free, but very nice integrated editor, and debugger - Windows, MacOS and Linux):
  `http://www.simplyfortran.com`

Library Information: Engineering and Science library research guides:
  `http://libguides.humboldt.edu/prf.php?account_id=3860`

Additional Info: HSU Student Rights and Responsibilities Information:
  `http://www2.humboldt.edu/academicprograms/syllabus-addendum-campus-resources-policies`

Reports: The following formatting conventions are requirements for math, figures and tables contained in all written communication in the ERE department at HSU. If the requirements are not meet, you will receive a grade of zero for the assignment. At the instructor's discretion, you may be able to correct your work and resubmit the paper, however it will treated as a late paper.
  All tables must have a title heading above the table.
  All figures must have a caption below the figure.
  Figures must not have a title at the top.
    Excel sometimes inserts one by default, which you must remove.
  All graphs must have axes labeled with units.
  Use subscripts and superscripts in figures and tables.
    For example, m^2, and not m2, m^2, m**2, etc.
  Figures must not be fuzzy, blurred, or low resolution pixelated images.
The department's guide to technical communication can be found at
  `http://engineering.humboldt.edu/technical-communication-resources`