- SYLLABUS

Embry-Riddle Aeronautical University
Daytona Beach Campus

COURSE NUMBER: MA348 Section 01
COURSE TITLE: Numerical Analysis
CREDIT HOURS: 3
TERM: Spring19

PLACE/TIME: T-TH 11:15-12:30 Classroom COAS417

FINAL EXAM: Tuesday April 30th 14:45-16:45

INSTRUCTOR: Frederique Drullion
OFFICE HOURS: T-Th 9:45 to 11:15 and W 9:45 to 12:15 ; or by appointment.
Office hours are subject to change; they will be announced and posted on Canvas

OFFICE LOCATION/PHONE: **COAS301.18** / Phone: (386) 226-6654
E-MAIL: drulliof@erau.edu
WEBSITE: CANVAS

COURSE TEXT: Steven C. Chapra & Raymond P. Canale, Numerical Methods for Engineers.

COURSE DESCRIPTION: This course covers development and application of fundamental algorithms for finding roots of equations, solving systems of linear equations, eigenvalues and eigenvectors, polynomial and spline interpolation, fitting data using least-squares, differentiation and integration..

Prerequisite: Standard introductory calculus sequence (MA241-3), plus an elementary introduction to matrix theory (this is provided by MA345), and some experience programming in FORTRAN | C | MATLAB.

ATTENDANCE and COURTESY:
Students are expected to be on time for class and should avoid leaving early. **Cell phones are to be turned off or a least on silent mode during the class**. Individuals are expected to be cognizant of what a constructive educational experience is and respectful of those participating in a learning environment.
Students are responsible for everything that happens in class every day. If a class is missed, **the student is held responsible for finding out what was missed.**
If no advance arrangement has been made, students are authorized to leave after a **15 min** wait.

TESTS/ PROJECTS
There will be several tests/projects as well as a final project. They will be announced in class and the due dates will be posted on CANVAS at least one week before. The Project reports and/or presentations will be uploaded on canvas and a hard copy will be given in class on the due date.

No make-up exams will be given for unexcused absences; excused absence must be approved by the instructor. The student must contact the instructor within the 24 hours after the original exam to be eligible for a make-up exam. The make-up exam will be different for the original one and can be more difficult.

LABS:
Most of the sections covered will have a coding lab, the due dates will be announced in class and posted on CANVAS.

HOMEWORKS:

HW and due dates will be posted on Canvas. If the student cannot make it to class the homework has to be handed in to the instructor by 3:30 pm on the due date. HW will be evaluated on completeness, correctness and presentation. **There will be no late work accepted. No extra work will be assign** for you to improve your grade, so if you need/want a certain grade start working toward from the very beginning of the semester.

HONOR: **Cheating will not be tolerated** and may be punished by automatic failure in the course.

GRADING POLICY:
- Grades will be computed based on the following formula:

Homework	10 %
Exam/Projects	25%
Labs	50%
Final	15%
TOTAL	100%

Letter grades will be assigned by the rule: A: 90% - 100% B: 80 - 89 C: 70 - 79 D: 60 - 69 F: 0 - 59
Borderline cases will be decides according to the interest shown in class and performance on the final.

DISABILITY POLICY:
- Students with disabilities who believe that they may need accommodations in this class are encouraged to contact the Office of Disability Services as soon as possible to better ensure that such accommodation are implemented in a timely fashion. The students must notify DSS of date and time of test once he/she has been made aware of the test date.

SOME SUGGESTIONS FOR STUDYING:
• Read/watch the videos of the material before it is covered in class.
• Listen carefully while it is presented in class.
• STUDY it carefully, trying to understand the concepts and ideas involved, not merely "how to do it".
• Work out as many problems as possible, at the very least the ones assigned; Mathematics can be learned only by doing it!
• Get your questions answered before too many accumulate. Ask questions.
• Try very hard not to fall behind; it is always very difficult to catch up.
• Do not hesitate to ask questions and seek help.
• Do not hesitate to come talk to me if you are facing difficulties.

FORMAT FOR ALL WRITTEN REPORTS:
The deliverables will include all of the following items:
(a) 5p. Cover page: Course, subject, name, date
(b) 5p. Introduction: Describe the problem and state objectives
(c) 5p. Theory-Analysis: State assumptions and develop equations
(d) 20p. Numerical Solution: Describe the numerical methods used to solve the problem
(e) 45p. Results and Discussion: tabulate and plot the results, compare results, and discuss the accuracy of results
(f) 20p. Conclusions: Comment on the efficiency of the solvers
(g) Appendices: Include listings of the source codes, include printed copies of the output files

The codes will also be submitted on Canvas with the title MA_438_Assignment_Number_Last Name.

HAVE A GOOD SEMESTER!