Department of Electrical and Computer Engineering

EEL 2880 - ENGINEERING SOFTWARE TECHNIQUES
Spring 2020

Instructor	:	Dr. Herman Watson
Office Hours	:	by appointment Monday 9:30-11:00 am Tuesday & Thursday 3:30 – 5:00 pm
Office	:	EC – 3951
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Class	:	TBD
Web Page	:	http://web.eng.fiu.edu/watsonh/

Catalog Description:
Engineering problem solving process, overview of a generalized computing system, software development, real-life engineering applications, computational implications. (3 Credits)

Reference Textbook: Open source materials are used as instruction materials
Deitel & Deitel
C How to Program
ISBN 0-13-299044-X

Course Objectives:
Through successful completion of the course, the student will:

- Understand the stages of the engineering problem solving process and their relationship to the development of software for its implementation.
- Learn the C programming language, as a vehicle for the solution of engineering problems.

Relationship of course to program outcomes:

a) an ability to apply knowledge of mathematics, science, and engineering
c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
e) an ability to identify, formulate, and solve engineering problems.
g) an ability to communicate effectively.
h)the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
k)an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice

Grading Scale:		
A	92-100	"Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of the University. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook."
A-	90-92	
B+	88-90	
B	82-88	
B-	80-82	
C+	78-80	
C	70-78	
D	60-70	
F	< 60	

Department Regulations Concerning Incomplete Grades

To qualify for an Incomplete, a student:

1. Must contact (e.g., phone, email, etc.) the instructor or secretary before or during missed portion of class
2. Must be passing the course prior to that part of the course that is not completed
3. Must make up the incomplete work through the instructor of the course
4. Must see the Instructor. All missed work must be finished before last two weeks of the following term.

Policies:

1. **Academic Misconduct:** For work submitted, it is expected that each student will submit their own original work. Any evidence of duplication, cheating or plagiarism will result at least a failing grade for the course.
2. Absences: Resolution of absences and materials missed are student responsibility
   a) **Unexcused Absences:** Two unexcused absences are permitted during the term. More than two will result in the loss of points from your final grade. (1 point per absence above two, 3 points per absence above 5).
   b) **Excused Absences:** Only emergency medical situations or extenuating circumstances are excused with proper documentation.
      - 1. Review documentation with the lecturer,
      - 2. email as a written record to watsonh_fiu@yahoo. (Note underscore)
        - Name, SID, class, section, description and date of the absence
3. **On Time:** As in the workplace, on time arrival, preparation, and submissions are required.
4. **Deadlines: Work is due on the date specified.** Late submissions within one week will receive up to half credit. After one week, **late work will not be accepted**. Late submissions are graded after the final exam.
   Participation deadlines are absolute – no late completions are accepted
5. **Submissions: This class is paperless**. Submissions are made using the web form listed on the class web site (online and in class sections) See the class web site for instructions.
   All submissions must be
   a) a single document,
   b) web accessible and readable with a browser
   c) with a single URL reference.
6. **DO NOT** submit work by email.
7. Instructor reserves right to change course materials or dates as necessary.

Grading Scale: NOTE: There are ***no makeup exams*** offered

Topic	Percentage
Exam 1 ***no makeup***	20%
Exam 2 ***no makeup***	25%
Final ***no makeup***	25%
Project – Exercises	15%
Homework	10%
Participation & Quiz	5%
Attendance	Unexcused absence penalty based on in class policy

Class Schedule:

Wk	Date (Mon)	2880 Weekly Topic Spring 2018 Tuesday/Thursday topics	Homework: Due
01	01/06/20	Introduction, Flow Charts V1 – Dennis Richie, V2 - SFC	HW01 Flow Chart 01/14/20
02	01/13/20	Integrated Development Environments V3- Install C::B, V4 - IDE's	HW02 Install IDE 01/21/20
03	01/20/20	Objects / Expressions (MLK Holiday Monday 01/20) V5 - Data Types, ForIf, V6 - Scopes	HW03 Operators Quiz1 01/28/20
04	01/27/20	Expressions / Statements – Print Pi & Burglar Alarm V7 - PrintPi , V8 – Burglar Alarm (bitwise operators)	HW04 Binary Print 02/04/20
05	02/03/20	Statements – Switch/ While, For Loop Examples PQBinary V9 – McDucks , V10 – For Examples	Review Quiz2 02/11/20
06	02/10/20	Tuesday 2/11 Review V11 / **Thursday 2/13 Exam 1**	
07	02/17/20	**Project Assigned** / Arrays & Strings V12 -Hist, Project V13 - Array, String, Tires/Apples	HW05 03/04/20
08	02/24/20	Spring Break	
09	03/02/20	**Pointers** Deck – V14, Card functions - V15	HW06 Shuffle Deck 03/11/20
10	03/09/20	Functions **Exercise 1 Due Fri 03/07** **PQDeck** V16 - APF Summary, Hist ptr/value V17- BBB, Deck solution	HW07 Play 2 Hands 03/18/20 Quiz3 03/18/20
11	03/16/20	Tuesday 03/18 Review / **Thursday 03/20 Exam 2** (03/18 Monday - Last Drop) V18 Quiz 3 Review	
12	03/23/20	Structures V19 – Structures, New, List V20 – Stdio.h, Text file I/O	HW08 Structures 04/01/20
13	03/30/20	Structures, File I/O / **Exercise 2 Due Fri 04/04** PQStructure V21 – Binary I/O, Hex Dump, Text EOL	HW09 File I/O 04/10/20
14	04/06/20	Structures, File I/O / Other Languages V23 – Alice Plumbing HW PQFile **Exercise 3 Project Due Friday 04/11**	HW10 Plumbing Quiz4 04/17/20
15	04/13/20	Tuesday Review Quiz4 & File I/O V24 **Thursday 04/17 Exam 3**	
16	04/20/20	**Finals week (no final for this course)**	