UNIVERSITY of HAWAI'I®
WINDWARD
COMMUNITY COLLEGE

EE 160 (Programming for Engineers) Course Syllabus

(Credits: 4 / CRN#: 61171 / Mode: Online / Semester: Spring 2022)

Instructor: *Navtej (Johnny) Singh* || Office Location: *Manaopono 110*

E-Mail: *navtej@hawaii.edu* << *This is the best way to get in touch. Provide name & class information*>>

Zoom Video Link: https://hawaii.zoom.us/j/2025344398 <<Meeting ID: 202 534 4398 >>

Dedicated Zoom Office Hours: T *9:30am – 11:00am, F 10:00am – 12:30pm, & by appointment*

Telephone #: *(808) 236 – 9278* << *If I don't answer leave a message with contact information* >>

Windward Community College (WCC) Mission Statement

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide the Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Catalog Description

Introductory course on computer programming and modern computing environments with an emphasis on algorithm and program design, implementation and debugging. Designed for engineering students, this course includes a hands-on laboratory to develop and practice programming skills.
Pre-Requisite(s): Math 140 or consent of instructor. Recommended Preparation: ICS 101.

Learning Resources and Materials

- **Main Course Website:** *https://laulima.hawaii.edu*
  All material such as syllabus, tentative schedule, assignment instructions, exam reviews, discussion board and grades will be available through this website. Laulima will also be used to submit and return graded assignments. You can access this site via your UH login and password.
- **Recommended Textbook:** "*Engineering Problem Solving with C*" 4th or higher edition by Delores M Etter (ISBN: 9780136085317). This textbook is highly recommended. There are tremendous open resource websites available on programing in C/C++ that can be use as alternative or supplement to the textbook. In addition, students are expected to independently research and utilize credible free resources available via World Wide Web. Below are some of the useful website that will complement this course:
  http://publications.gbdirect.co.uk/c_book || http://www-ee.eng.hawaii.edu/~tep/EE160/Book/book.html
  http://www.codingunit.com/category/c-tutorials || Beginning Programming with C for Dummies (ebook)
  http://www.hawaii.edu/tutor – Provides free 24/7 online tutoring using your UH username & password.
- **Software:** In order for you to write and execute a program, you need an appropriate programing environment. In this class, we will be utilizing command based programming environment [**UH UNIX Secure Shell Client** (http://www.hawaii.edu/askus/685)] and an Integrated Development Environment

that uses graphic user interface [**jGrasp** (http://jgrasp.org)]. If you are not familiar with UNIX or Linux, then I recommend you to watch some online tutorial and familiarize yourself with commonly used commands. Note that you also need to download appropriate compliers (Instruction: http://users.csc.calpoly.edu/~akeen/courses/csc101/references/gcc.html). You may also use an online development environment such as **Cloud9 IDE** (https://c9.io). This course assumes that you have a reliable computer (windows, Mac, or Linux OS) with broadband internet.

Tasks and Grading

Point Distribution		
Consultations	Five Meetings @ 5 points each	025 pts
Assignments	Eight Assignments @ 25 points each	200 pts
Midterm	Incudes Material Learned up to Assignment 4	050 pts
Final Exam	Combination of Everything Learned	075 pts
Total Points	Excluding Any Extra Points	350 pts

Programming Assignment Rubric	
Full-Credit:	All instructions are followed and the program runs error free.
2/3-Credit:	The program is error free, but not all of the instructions are followed.
1/3-Credit:	The program contains errors and/or specified concept is not used
No-Credit:	The program won't compile or contains excessive errors

Letter grades will be assigned based on the following standard scale
A ⇒ 90% ↑; B ⇒ 80%↑; C ⇒ 70% ↑; D ⇒ 60% ↑; F ⇒ below 60%;

Other grade options include N, CR, NR, I, and W. See the following information for detail:

"The 'N' grade indicates that the student has worked conscientiously, attended regularly, finished all work, fulfilled course responsibilities, and has made measurable progress. However, either the student has not achieved the minimal student learning objectives and is not yet prepared to succeed at the next level, or the student has made consistent progress in the class but is unable to complete the class due to extenuating circumstances, such as major health, personal or family emergencies." If you would like to request for N grade in this class, you must provide a formal letter of request to me no later than the time of final examination addressing how you have met the criteria for N grade. Then I will make a decision on whether or not you qualify for the N grade.

The CR/NC grades require written instructor consent. Overall score of 70% or higher is consider CR and below 70% is NC. Students must apply for CR/NC grading option at the Admissions Office by the posted deadline. If a student does not apply for CR/NC grading option at the Admissions Office by the required deadline and if s/he does not withdraw, a letter grade (A, B, C, D, F, N) will be assigned for the course. The W grade is given only when the student officially withdraws from the course by the posted deadline. The "I" grade is a temporary grade given at the instructor's option when a student has failed to complete a small part of a course because of circumstances beyond his or her control. The "I" grade is given by student request and must be approved by the instructor.

Midterm and Final Exam

There will be two timed exams (Midterm and Final) in this course, available through laulima.hawaii.edu, that students must take within designated time frame. A review sheet or sample test will be provided to assist students with studying for the midterm. You can use all available resources (i.e. calculators, textbooks, google, youtube) to help you with this exam EXCEPT GETTING HELP FROM ANOTHER PERSON (i.e. no help from peers, tutors, or online live chat/video). For test date(s), refer to the schedule page (at the end) of this syllabus.

Assignments

All assignments will be either posted on Laulima or emailed to your UH email address in timely manner. Assignment topics and due dates are listed on the last page of this syllabus. Students are allowed to work together on assignments but each student must turn in their own interpretation of the work for grading. I encourage you to utilizing the online tools such as message board to communicate with each other. I recommend that you start on the assignments early and ask for help if needed. Feel free to email or connect with me via zoom video or make an appointment for consultation to get help. Do not wait till the last minute to get starts o the assignments since it may be overwhelming. You must submit your completed assignments (e.g. code files, reports, analysis, data files, testing results, trouble reports) by uploading it to single folder in Laulima drop box titled with your name and assignment number by the indicated due date. **You will encounter one-point penalty for each day your assignment is late**. **Assignments that are more than a week (including weekend and holidays) late will not be accepted**. I will be posting the solutions to each assignments along with feedback soon after the end of late submission period.

Consultations

There are five required consultations for this class worth five points each. I prefer the 1st consultation to be done via zoom (in person visit will be COVID-19 dependent) by the end of 1st week of instruction, so that I can help you get situated with this class. The remaining consultations can be done anytime during the term, using any method of communication, and for various reasons. For example, a consultation can be used to get help on programming platform, questions about course syllabus, homework assignments/programs, finding useful material online, software troubleshoot, checking progress, reviewing/going over midterm/final exam, or discussing grade.

Important Information

Please check your @hawaii.edu e-mail account frequently for important announcements. This syllabus is subject to change in extenuating circumstances. Student must complete all online homework assignments, quizzes, and exams including final within this term. I highly recommend that you do not fall behind and use the guided due dates for quizzes, homework assignments, and exams found on the calendar included in this syllabus. For important academic information refer to WCC website www.windward.hawaii.edu or go to www.hawaii.edu for system wide information. Plagiarism, copying, or use another person's work without proper acknowledgment is not permitted and may result in failing grade for the course. Make-up work beyond designated due dates is not allowed. To succeed in this online Math class, do not procrastinate and complete your tasks in timely manner. In the event instructor cannot be reached, you may contact the Academic Affairs Office (located in Alakai 121) at (808) 235-7422 or email wccaa@hawaii.edu

Communication

Since this is a distance learning class, communication is an important part of this course. The following methods will be used to communicate:

- E-mail will be our primarily mode of communication (make sure to check your UH email frequently). I will do my best to response to your emails within 24 hours on instructional days (perhaps much sooner). This is an effective method of communication if you expect a short response.
- You can connect with me via Zoom Video using the ID 202 534 4398 or via Google Video using the UH ID navtej@hawaii.edu during dedicated office hours (or via an appointment) to get elaborative help. This is the preferred way to get help on homework.
- If you go to windward community college or live nearby, you can stop by office anytime during my office hours or make an appointment to see me (This option will be limited in spring 2021 due to COVID-19).
- Alternatively, you can also connect with me via my office phone (808) 236 – 9278 during my office hours or leave a message for me to return your call (Due to COVID-19 I won't be in my office very often but I can listen to your message anywhere).
- At last but not least, online discussion board can be used to interact with classmates by asking homework questions and answering previously posted problems. I will post hints, announcements, and answers to commonly occurring questions or mistakes at Laulima discussion board. I also encourage you to use the discussion board to posting helpful comments, questions, and response.

Student Learning Outcomes

Upon completion of the course, the student will be able to:

- Explain the steps involved in the programming process.
- Solve simple problems and express those solutions as algorithms.
- Use the fundamental techniques of selection, looping, assignment, input, and output to describe the steps the computer takes to solve a problem.
- Write algorithms and code in a top-down manner.
- Work with arrays in searching and sorting applications.
- Work with structures and unions types.
- Write, test, and debug small programs.
- Write functions and use pointers.
- Work with characters and strings.
- Work in text based environment like UNIX.
- Interface with text base using a GUI interface.

➢ The above SLOs assessments are embedded in assignments, projects, or exams**.**

Disabilities Accommodation

If you have a physical sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Disability Specialist Counselor to discuss reasonable accommodations that will help your succeed in this class. Ann Lemke can be reached at (808) 235-7448, lemke@hawaii.edu, or you may stop by Hale 'Akoakoa 213 for more information.

Sex Discrimination and Gender-Based Violence Resources (Title IX)

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking. If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

UH Confidential Advocate Phone: (808) 348-0663 Email: advocate@hawaii.edu	Desrae Kahale, Mental Health Counselor & Confidential Resource Phone: (808) 235-7393 Email: dkahale3@hawaii.edu Office: Hale Kākoʻo 101	Karla Silva-Park, Title IX Coordinator Phone: (808) 235-7468 Email: karlas@hawaii.edu Office: Hale Kākoʻo 128

As a member of the University faculty, I am required to immediately report any incident of sex discrimination or gender-based violence to the campus Title IX Coordinator. Although the Title IX Coordinator and I cannot guarantee confidentiality, you will still have options about how your case will be handled. My goal is to make sure you are aware of the range of options available to you and have access to the resources and support you need. For more information regarding sex discrimination and gender-based violence, the University's Title IX resources and the University's Policy, Interim EP 1.204, go to manoa.hawaii.edu/titleix/

Student's Responsibility & Expectation from Online Course

Responsible students take ownership of their actions by exhibiting the following behaviors in this class:

- Take an active role in learning and seek immediate help when needed.
- Maintain a positive and inquiry attitude towards learning.
- Set aside adequate time for doing assignments and not waiting till the last minute to do assigned work.
- Complete assignments by the designated dates with attention to quality of work.
- Stay current and don't procrastinate since new concepts are built on previously learned material.
- Check UH email and Laulima course site regularly and participate on the discussion board.

- Taking an online course actually requires great deal of discipline and individual effort on the part of the student. In an online course student are expected to be independent learner using provided resources and with guidance from instructor. This is not a subject that you can consistently be successful in by cramming work since it takes time developing proficiency in doing the problems and long-term understanding of the process. Also, do not procrastinate in this course because you could fall way behind that it will becomes impossible to catch up. This course requires constant work to stay on top of the material. Students are expected to spend great deal of time to be successful in this course.

Remarks

All programming languages use same basic concepts and logic, so it is easier to master other languages after learning one. By writing your initial program in pseudocode, you should be able to use any programming language to code your software. It is vital that you understand programing concepts so that you can use them throughout your studies as a programmer or Software Engineer afterward.

EE 160 Tentative Schedule for Spring 2022

Week	Dates (M-F)	Lessons/Topics/Assignments/Due Dates
1	1/10 – 1/14	Read Course syllabus and Conduct 1st Consultation via Zoom
2*	1/17 – 1/21	Assignment 1 (Hello World) Due Wednesday 1/19
3	1/25 – 1/28	Install jGrasp and Recommended Consultation to get Help
4^	1/31 – 2/4	Assignment 2 (Variables) Due Tuesday 2/1
5	2/7 – 2/11	Perhaps come for consultation to get help
6*	2/14 – 2/18	Assignment 3 (Control Structure and Data Files) Due Monday 2/14
7	2/21 – 2/25	Midterm Review Become Available & Recommend Consultation
8*	2/28 – 3/4	Assignment 4 (Functions) Due Sunday 2/27 & Begin Midterm Review
9	3/7 – 3/11	Midterm Due (Must take it by 3/12)
10**	3/14 – 3/18	Spring Break
11	3/21 – 3/25	Assignment 5 (Arrays and Matrices) Due Wednesday 3/23
12	3/28 – 4/1	Possible Consultation to go over Midterm Grade and Get Help on Assignments
13	4/4 – 4/8	Assignment 6 (Pointers) Due Tuesday 4/7
14	4/11 – 4/15	Possible Consultation on Progress Check and Help on Assignments
15	4/18 – 4/22	Assignment 7 (Structures) Due Monday 4/18
16	4/25 – 4/29	Final Exam Review Become Available & Recommended Last Consultation
17	5/2 – 5/6	Assignment 8 (Programing in C++) Due Sunday 5/1 & Study for the Final Exam
18**	5/9 – 5/13	Final Exam (Must take it by 5/12)

Remark: All Assignments are due by 11:59pm of the due date

^Drop Dates: February 2 – Last day to withdraw without a W grade

*Holidays: January 17 – Martin Luther King Junior Day
February 14 – Presidents' Day
March 4 – Excellence in Education Day
April 15 – Good Friday