



**Division of Digital and Information Technology
Computer Programming Department**

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/computer-programming/>

COSC 1437: Programming Fundamentals II - Swift | #12488

Spring 2020 | 16 Weeks (1.21.2020-5.17.2020)

Face to Face | Alief/Hayes #B142 | TTH 11:00 AM – 1:50 PM

4 Credit Hours | 96 hours per semester

Instructor Contact Information

Instructor:	Show Ku	Office Phone:	713-718-7885
Office:	E106	Office Hours:	TBD (email me)
HCC Email:	jessica.ku@hccs.edu	Office Location:	Stafford Campus

Please feel free to contact me concerning any problems that you are experiencing in this course. Emailing me is the best way to contact me. I'm available to meet you on Mondays/Wednesdays at Stafford campus. My schedule may change at some point during the semester so please email me to verify.

Instructor's Preferred Method of Contact

Please use the Canvas Inbox email tool. I will respond to emails within 24-48 hours, Monday through Friday; I do check my emails during the weekend, but if I don't get to your email, I will definitely respond to them by Monday.

What's Exciting About This Course

This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design on iOS platform. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software.

My Personal Welcome

Welcome to Programming Fundamentals II. My name is Show (Jessica) Ku. I graduated from University of South Alabama with a Master in Computer and Information Sciences. I worked as database developer for almost 20 years before becoming full-time faculty at HCC.

This is the second course of Programming Fundamentals series. This course introduces object-oriented programming and more advanced programming constructs using Swift.

Please read the **rest of this syllabus** for the course description, pre-requisites, student learning outcomes, required textbook, instructional material, course assignments/assessments, as well as other course policies (participation, makeup, etc.). Pay special attention to the **Course Calendar** section shown below for assignments/assessments due dates.

As the course progresses, you may encounter challenging ideas or difficulties completing your coursework. I am available to support you. The fastest way to reach me is through the Canvas Inbox e-mail. If, for any reason, you can't access Canvas, you can reach me at my HCC e-mail (jessica.ku@hccs.edu). The best way to really discuss issues is in-person. I'm available during posted office hours to tackle the questions. My goal is for you to walk out of the course with a solid understanding of computer programming, so please visit me, or contact me by email, whenever you have a question.

Prerequisites and/or Co-Requisites

Must have completed these courses: COSC 1436 or ITSE 1402, and ENGL 1301 and MATH 1314. If you have enrolled in this course having satisfied these prerequisites, you have a higher chance of success than students who have not done so. Please carefully read and consider the repeater policy in the [HCCS Student Handbook](#).

Canvas Learning Management System

This section of COSC1437 will use [Canvas](https://eagleonline.hccs.edu) (<https://eagleonline.hccs.edu>) to supplement in-class assignments, exams, and activities. HCCS Open Lab locations may be used to access the Internet and Canvas. **USE FIREFOX OR CHROME AS THE INTERNET BROWSER.**

HCC Online Information and Policies

Here is the link to information about HCC Online classes including the required Online Orientation for all fully online classes: <http://www.hccs.edu/online/>

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. <https://eagleonline.hccs.edu/login/ldap>

Instructional Materials

Textbook Information

The textbook listed below is required for this course.



"The Swift Programming Language" Swift 5/5.1 Edition or higher by Apple. It is free download from Apple Book Store. Can also be found at swift.org.

"App Development with Swift" iOS 12 and Xcode 10 version. It is free download from Apple Book Store.

Instructor provided materials

MacBook Check-out Process

You need a MacBook with the latest Xcode installed for this course. HCC provides MacBook Air for students to check out if you do not have a MacBook. You can check out the laptop after the official record date (2/3/2020). Details will be discussed in class.

Note: An **Apple ID** is required to install software on your MacBook. MacBook must be returned on the last day of the class. If you decide to withdraw from this class, you need to notify the instructor and return the MacBook to the library of the campus where class is held.

Other Instructional Resources

HCC Open-Labs

HCC provides computer labs at most campuses. Information on HCC open-labs can be found at: <http://www.hccs.edu/departments/division-of-instructional-services/institute-for-instructional-engagement--development/open-lab-schedule/>

Computer Science Open Labs and Tutoring

The Computer Science Department provides department computer labs, monitored by a lab tech (tutor) who can help with computer science assigned coursework. Go to the link below for more information. Select **Face-to-Face** tutoring. Leave **Any** for the College field, and then put **COSC** or **Programming** for the Subject.

<https://iied21.hccs.edu/forms/allTutoring/index.html>

HCC Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services](#) website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the

libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at <http://library.hccs.edu>.

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at <http://www.hccs.edu/resources-for/current-students/supplemental-instruction/>.

Course Overview

COSC 1437 introduces object-oriented programming and provides in-depth coverage of programming for computer science and technology majors. Topics include software development methodology, classes and structures, enumerations, protocols and delegates, extensions and closures, error handling and the mechanics of running, testing, and debugging software.

Program Student Learning Outcomes (PSLOs)

Can be found at:

<https://www.hccs.edu/programs/areas-of-study/science-technology-engineering--math/computer-programming/>

Course Student Learning Outcomes (CSLOs)

Upon completion of COSC 1437, the student will be able to:

1. Identify and explain a programming development lifecycle, including planning, analysis, design, development, and maintenance.
2. Demonstrate a basic understanding of object-oriented programming by using structs and classes in software projects.
3. Use object-oriented programming techniques to develop executable programs that include elements such as inheritance and polymorphism.
4. Document and format code in a consistent manner.
5. Apply basic searching and sorting algorithms in software design.
6. Apply single- and multi-dimensional arrays in software.
7. Use a symbolic debugger to find and fix runtime and logical errors in software.
8. Demonstrate a basic understanding of programming methodologies, including object-oriented, structured, and procedural programming.
9. Describe the phases of program translation from source code to executable code.

Learning Objectives

Learning Objectives for each CSLO are under development.

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for the assignments. The assignments provided will help you practice the concepts discussed in class lectures and hone your hands-on skills. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading and studying the material and more importantly completing the assignments.

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar
- Arrange to meet with individual students as needed

As a student, it is your responsibility to:

- Attend class in person and/or online
- Be on-time!!
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook

Assignments, Exams, and Activities

Programming Assignments

There will be one programming assignment in each module. Each programming assignment has its own due date and if submitted after the due date the grade will be reduced to 25% of the grade earned on that lab. This penalty might be waived for the first couple of lab assignments in the course. Programming Assignments are to be completed individually. See Grading Formula below for programming assignments weight toward your course grade.

Programming assignments require that you have an access to a Swift development tool. Our tool for Swift is **Xcode**. Xcode will be installed in class.

Quizzes

Quizzes are short assessments administered on Canvas, each consisting of a set of multiple-choice or true/false and free response questions, covering material in one module. The purpose of quizzes is to help you assess your knowledge of the material covered in a module and prepare for the major exams. Quizzes are to be completed individually and may not be made up for any reason.

Exam(s)

There will be two tests and a final exam. All exams will be closed-book, closed-notes, proctored exams to be taken in-person. Please see Grading formula for the weight of each exam toward your course grade and see the Course Calendar on Canvas for scheduled exam dates and the time limit for each.

Make-up exams will be given *only* in cases of extenuating circumstances. Extenuating circumstances are **unexpected and unavoidable** situations such as hospitalization or auto accident. They don't include forgetting about the date of the exam, busy work schedule, etc. You would need to provide documentation to your instructor as soon as possible after the missed assignment/assessment for consideration. Extenuating circumstances will be evaluated by your instructor on a case by case basis. It is your responsibility to contact your instructor with documentation of your situation as soon as possible, schedule a makeup exam, and submit the proper documentation to the department. All missed grades will be recorded as zeros.

Final Exam

The final exam will be administered on campus (i.e. must be taken in person). It will be closed book, closed notes and comprehensive. You will login to Canvas using LockDown Browser to take the final exam.

Students who are absent from the final exam without discussing their absence with the instructor in advance or within 24 hours afterward will receive a grade of 0.

Grading Formula

Category	Weight
Quizzes	20%
Programming Assignments	20%
In Class Activities/Participation	10%

Exams (2 exams)	30%
Final Exam	20%
Total	100%

Grade	Total Points
A	100-90
B	89-80
C	79-70
D	69-60
F	< 60
Fx	Failed Due to lack of participation (can affect financial-aid status)

Incomplete Policy:

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

HCC Grading Scale can be found on this site under Academic Information:
<http://www.hccs.edu/resources-for/current-students/student-handbook/>

Course Calendar

Dates	Week	Topics	Reading Assignments
Jan 21, 23	1	Course Overview, Orientation, Assign MacBook, Install Xcode Module 1- Review Swift Functions	APDev 2.2
Jan 28, 30	2	Module 2 – Review Swift Arrays and Dictionaries	APDev 2.5
Feb 4, 6	3	MacBook Checkout Module 3 – Swift Structures.	APDev 2.3
Feb 11, 13	4	Module 4 – Swift Classes and Inheritance Modules 1-2 Quiz (2/13) Programming Assignment 1 Due (2/16)	APDev 2.4
Feb 18, 20	5	Module 4 – Swift Classes and Inheritance	APDev 2.4
Feb 25, 27	6	Module 5 - Intro to UIKit Review for Exam 1 Modules 3-4 Quiz (2/27) Programming Assignment 2 Due (3/1)	APDev 2.6-2.7
Mar 3, 5	7	Module 5 - Intro to UIKit Exam 1 – covers Modules1-4	APDev 2.6-2.7
Mar 10, 12	8	Module 6 – Optionals, Type Casting and Inspection, Guard Module 5 Quiz (3/12) Programming Assignment 3 Due (3/15)	APDev 3.1-3.4
		Mar 16-22 Spring Break	
Mar 24, 26	9	Module 6 – Optionals, Type Casting and Inspection, Guard	APDev 3.1-3.4
Mar 31, Apr 2	10	Module 7 – Enumerations Modules 6-7 Quiz (4/2) Programming Assignment 4 Due (4/5)	APDev 3.5
		Apr 6 – Last Day for Administrative/Student Withdrawals	
Apr 7, 9	11	Review for Exam 2 Exam 2 – covers Modules 6,7	APDev 3.5
Apr 14, 16	12	Module 8– Protocols	APDev 4.1
Apr 21, 23	13	Module 8 – Protocols Module 8 Quiz (4/23) Programming Assignment 5 Due (4/26)	APDev 4.1
Apr 28, 30	14	Module 9 – Closures	APDev 2.5
May 5, 7	15	Module 9 – Closures Review for Final Module 9 Quiz (5/7) Programming Assignment 6 Due (5/10)	APDev 2.5
May 12	16	Final Exam Return MacBook	Modules 1-4,6-9
		APDev – App Development with Swift iBook	

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

Instructor's Practices and Procedures

Missed Assignments

Other than the final exam, late work is accepted, with a penalty, unless proper documentation is provided.

Academic Integrity

Scholastic Dishonesty will result in a referral to the Dean of Student Services. See the link below for details. Students may ask questions to other students, to me, or to anyone else. This is how we learn, and I encourage it. HOWEVER, all work must be started and completed in its entirety on your own. If it is found that students are sharing the same files, and then making minor changes to submit the work as their own, students will receive a 0 on the assignment and be referred to the Dean of Student Services.

Click on the link to view HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

<http://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-procedures/>

Attendance Procedures

1. On-campus students may be withdrawn if the student is absent for more than 12.5% of class. See the Student Handbook for more information.
2. Online students may be withdrawn before the Official Day of Record if they have not logged in or shown sufficient participation. See the Online Student Handbook for more information.
3. As an Online section or On-Campus section of this course, you must make satisfactory progress in this course. Students may be withdrawn if the student misses turning in assignments (Labs, quizzes, or discussions) that total to more than 12.5% of the course work prior to the Final Exam.
4. Contact your instructor if you are having a problem.
5. If you decide to quit participating in the course before the Last Day for Administrative/Student Withdrawals, you may withdraw yourself, or ask the instructor to withdraw you, or in some cases the instructor may withdraw you without your approval if you have not attended and participated. Talk to you instructor for details.
6. After the withdrawal date deadline, the instructor is not able to withdraw you.
7. You may receive an FX as your grade due to lack of participation if you have not withdrawn yourself. If you receive an FX, you may or may not have to return the financial aid.

For complete information regarding Houston Community College's policies on attendance, please refer to the Attendance Policy under Academic Information in the [HCC Student Handbook](#) .

Student Conduct

Two simple rules: (1) Students should be respectful to everyone in the classroom. (2) Students should come to class on-time, prepared, and ready to learn.

Instructor's Course-Specific Information (As Needed)

WHERE DO I BEGIN?

1. **IF YOU ARE IN AN ONLINE SECTION**, make sure you complete the online orientation at: <http://www.hccs.edu/online/>.
 - a. Click on **Student Support** under HCC Online Services
 - b. Click on **Online Class Orientation** under Important Information
 - c. Click on the Semester link of your choice
 - d. Search for this course by choosing **Computer Programming** or by entering the appropriate **CRN** number
 - e. Locate the course you have enrolled and click the **Online Orientation** link
2. **TO ACCESS OUR COURSE** go to <http://eagleonline.hccs.edu>.
 - a. Alternatively, you may go to <http://www.hccs.edu>. If you don't see the **MyEagle Student Sign-in** link at the top of your screen, scroll down to *College Links* (bottom right column) to select **Student Sign-in**, and then select **Eagle Online Canvas**.
3. **READ THE MAIN PAGE OF OUR CLASS WEBSITE** and then click on **MODULES**. Start with the first module, read each link in the module, and proceed to the second module.
4. **Download eBooks and Activities** as soon as possible.
5. **PRINT OUT THE COURSE CALENDAR** found in this syllabus. Mark off each assignment as completed. This will help you stay on schedule.
6. **THE EAGLE ONLINE USER ID** will be your HCC User ID (sometimes referred to as the "W" number). All HCC students have a unique User ID. If you do not know your User ID, you can look it up by visiting the HCC home page. **YOU WILL NEED TO KNOW THIS USER ID AND PASSWORD WHEN YOU COME TO TAKE THE FINAL EXAM!!**
7. **EMAIL ME VIA THE EAGLE ONLINE INBOX TOOL**. If you cannot access the Eagle Online (Canvas) Inbox tool, you may send me a message via your normal email provider to jessica.ku@hccs.edu, making sure to add your NAME and COURSE and CRN *in the Subject line*. *Emails received without this information will not be answered.*
8. **EAGLE ONLINE TECHNICAL HELP** Go to <http://hccs.edu/online> and click on **Technical Support** and then on **Eagle Online Technical Support**. It lists the support methods available:
 - a. The recommended way to get support is to complete the form under the **Student Help Form** link.
 - b. Technical Support number: 713-718-5275, option 3
 - c. IT Password Reset number: 713-718-8800, option 1
9. **POP Ups** If a pop-up is blocked, you will need to set your pop-up blocker to allow pages from our Eagle Online site. More information is located in the first module of the course. Do this before beginning the course as many of the early links in the course are pop-ups!
10. The hardest part of this course is completing all the work on-time. Do not procrastinate. Work ahead! Have fun!

Electronic Devices

Two simple rules: (1) Cellphones should not be used during class. (2) Do not use the classroom computers for non-course activities during lectures.

HCC Policies

Here's the link to the HCC Student Handbook <http://www.hccs.edu/resources-for/current-students/student-handbook/> In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

EGLS³

The EGLS³ (Evaluation for Greater Learning Student Survey System) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS³ surveys are only available for the Fall and Spring semesters. -EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

<http://www.hccs.edu/resources-for/current-students/egls3-evaluate-your-professors/>

Campus Carry Link

Here's the link to the HCC information about Campus Carry:

<http://www.hccs.edu/departments/police/campus-carry/>

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go [to HCC Eagle ID](#) and activate it now. You may also use Canvas Inbox to communicate.

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their

college for support. Furthermore, please notify the professor if you are comfortable in doing so.
This will enable HCC to provide any resources that HCC may possess.

Office of Institutional Equity

Use the link below to access the HCC Office of Institutional Equity, Inclusion, and Engagement (<http://www.hccs.edu/departments/institutional-equity/>)

disAbility Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/support-services/ability-services/>

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu
<http://www.hccs.edu/departments/institutional-equity/title-ix-know-your-rights/>

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

<https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/>

Department Chair Contact Information

Jamshid Derakhshandeh: j.derakhshandeh@hccs.edu @ (713)718-6746