Basic Course Information

Semester:	**Fall 2018**	Instructor Name:	**Rick Castrapel**
Course Title & #:	CS 281 Assem & Cmptr Arch	Email:	**Rick.castrapel@imperial.edu**
CRN #:	**11117**	Webpage (optional):	**spaces.imperial.edu/rick.castrapel**
Classroom:	**2724**	Office #:	**2766**
Class Dates:	**Aug 13 – Dec 5 2017**	Office Hours:	**7:30-8:30 am Mon & Wed** **3:30-4:30 pm Tues & Thurs**
Class Days:	**Mon and Wed**	Office Phone #:	**760-355-6505**
Class Times:	11:30am-2:10pm	Emergency Contact:	**Silvia Murray 760-355-6201 or** **Ofelia Duarte 760-355-6155**
Units:	3		

Course Description

Basics of machine architecture, machine language, assembly language and operating systems. Representations of data types and structures along with instruction representation and execution, addressing modes, subroutine calls and return mechanisms, fixed point systems, and basic organization of the von Neumann machine are included..

Course Prerequisite(s) and/or Corequisite(s)

CS 221 and Math 91 with a minimum grade of C or better or equivalent or appropriate placement

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Describe how data is represented in computer memory.
2. Show how fundamental high-level programming constructs are implemented at the machine-language level.
3. Write simple assembly language program segments.

Course Objectives

1. Upon satisfactory completion of the course, students will be able to:
    1. Describe how data are represented in the computer, including floating point numbers and arrays.
2. Code, execute and debug assembly language programs.
3. Demonstrate an understanding of computer architecture.
4. Demonstrate the function of CPU registers.
5. Use correct addressing modes and terminology.
6. Use integer arithmetic instructions.
7. Correctly use repetition constructs, macros and procedures in assembly language.
8. Program keyboard input and text screen output.
9. Use machine instructions involving data structure stacks to code selected algorithms.
10. Write a simple interrupt handler.

Textbooks & Other Resources or Links

No textbook is required for this course.

Other materials as provided on **Canvas**, web resources, and handouts

Course Requirements and Instructional Methods

1. **Midterm Exam:** There will be one midterm exam and there will be no makeup exams given. Please refer to calendar for dates.
2. **Final Exam:** The final will be given during the last day of classes. A score of 0 will be given if the final is missed. Please refer to calendar for dates.
3. **Programming Assignments:** Java programming assignments are the core learning tool of this class. Programming assignments will be given after each lecture to reinforce the new material introduced in the lecture. Each programming assignment is due within one week. Ample lab time is included in the course to complete the labs. You are encouraged to work together and share ideas, but each student must turn on their own programming assignment. Programming assignments are submitted through **Canvas**.
4. **There will be no extra credit.** Students must learn the material to pass this course.
5. It is utmost important that students review the material to do well on exams. Students are encouraged to form study groups to meet regularly to keep up with labs and homework and to study for tests.
6. Students will not be allowed to make up an exam or final exam unless you have a powerful reason to miss a test (e.g. hospitalization, jury duty, and bring the corresponding paperwork).

Course Grading Based on Course Objectives

The student's grade will depend on the following areas (not on total points):

Midterm Test	**25%**	There will be one midterm test and there will be no makeup exams given. Zeros will be given for all missed tests.
Final Exam:	**25%**	The final will be given on the last day of the semester. A score of 0 will be given if the final is missed.
Labs	**50%**	Approximately 16 programming assignments.
Extra Credit:	**0%**	There is no extra credit. Students must learn the material to pass this course.

All grades are calculated by using the standard scale of: A = 100---90% B = 89---80% C = 79---70% D = 69---60% F = 59% and below

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student's status will be the same as that of any other student who desires to add a class. It is the student's responsibility to drop or officially withdraw from the class. See General Catalog for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.

- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as 'excused' absences.

Classroom Etiquette

- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- Food and Drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- Disruptive Students: Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the General Catalog.
- Children in the classroom: Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!!)].

Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- Plagiarism is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- Cheating is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test

information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- CANVAS LMS. Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: Canvas Student Login. The Canvas Student Guides Site provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- Learning Services. There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your Campus Map for the Math Lab; Reading, Writing & Language Labs; and the Study Skills Center.
- Library Services. There is more to our library than just books. You have access to tutors in the Study Skills Center, study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the Disabled Student Programs and Services (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- **Student Health Center**. A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC Student Health Center at 760-355-6128 in Room 1536 for more information.
- **Mental Health Counseling Services**. Short-term individual, couples, family and group counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the IVC Military and Veteran Success Center is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage,

creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC's Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC General Catalog.

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC Library Department provides numerous Information Literacy Tutorials to assist students in this endeavor.

Anticipated Class Schedule/Calendar

CS 281 Fall 2018 Tentative Schedule		
Date	**Event**	**Notes**
08/13/18	**Computation and Representation**	
08/15/18		
08/20/18		
08/22/18	**Arithmetic Expressions**	8/26/17: Last day to enroll. Last day to drop without fees.
08/27/18		
08/29/18		
09/03/18	**Holiday**	Labor Day
09/05/18	**Assembly Programming In the JVM**	
09/10/18		
09/12/18	**Control Structures In the JVM**	
09/17/18		
09/19/18		
09/24/18		
09/26/18	**General Architecture Issues: Real Computers**	
10/01/18	**Midterm Exam**	
10/03/18	**Intel 16 bit**	
10/08/18		
10/10/18		
10/15/18	**Intel P32 bit**	
10/17/18		
10/22/18		
10/24/18		
10/29/18	**Microcontrollers: The PIC**	
10/31/18		***11/3/18: Last day to drop and receive a W.***
11/05/18		
11/07/18		
11/12/18	**Holiday**	Labor Day
11/14/18	**The PIC**	
11/19/18	**HOLIDAY**	**Thanksgiving**
11/21/18		
11/26/18	**Microcontrollers**	
11/28/18		
12/03/18	**Review**	Review for Final Exam
12/05/18	**Comprehensive Final**	

*****Tentative, subject to change without prior notice*****

Imperial Valley College Computer Sciences Code of Conduct

We believe that everyone has a right to work in an environment where people treat one another honestly and fairly. Because academic dishonesty can threaten this environment we will pursue abuses of the policies outlined below aggressively.

When you submit any piece of work for grading or other evaluation, the reader will assume that you are the sole author of all aspects of it. The expectation is that you are the originator of every idea and author of every sentence in an essay, help file, or other document, that you wrote every line of code, that you designed every data structure and created every piece of data. In practice, you will often have good reason to use other people's work or to collaborate with others in creating a work that you will submit. In these cases, it is your responsibility to make the reader clearly aware of what has come from other sources. If a reasonable reader would assume, on reading your work, that some part was created by you alone when in fact it was created by someone else or by you in partnership with someone else, that reader has been misled. It is your responsibility to prevent such misimpressions, and the department will hold students accountable both for intentionally misleading readers and for failing to prevent reasonable misimpressions.

Code Plagiarism.

Computer science is a discipline where it is difficult to draw a precise line between acceptable and unacceptable collaboration. On the one hand we want to encourage you to try out other peoples' code; code reuse is an area of active research within computer science. On the other hand you will learn to write code only if you do it yourself. You are not learning and have crossed the line of acceptable behavior if you do not understand the solution you have submitted. We have the right to ask students to explain the code they submit. If you have "reused" someone else's code to an extent that you feel a need to change variable names or slightly rearrange the order of statements, then you have also violated the honor code. We also reserve the right to use electronic tools to check code for plagiarism. By submitting code for grading in any computer science course, you grant the instructor a license to send a copy of that code for plagiarism analysis to a research service, such as MOSS. The instructor, or their service, may compare your code against other students' code, or compare their code to yours. Give credit to someone else's ideas with a citation rather than turning in their work as your own.

Text Plagiarism.

When you hand in an essay or other writing assignment, you must give credit to your sources. You must provide a reference for any idea, conclusion, information or data that you got from another source (such as a book, an article on the Net, or a person). If you use someone's words, you must show that you are quoting them (use quotation marks or indent long quotes) and your reference should show your exact source (such as the page number of the article or book). If you quote someone, you must quote them accurately, word for word. To avoid plagiarizing, you might find the following articles useful:
Cheating and Plagiarism in Regulations section of IVC General Catalog
How Not to Plagiarize at `http://www.utoronto.ca/writing/plagsep.html`.
Citing Sources and Avoiding Plagiarism at `http://www.lib.duke.edu/libguide/cite/works_cited.htm`.

By submitting a writing assignment for grading in any computer science course, you grant the instructor a license to send a copy of that assignment for plagiarism analysis to a research service, such as TurnItIn. The instructor, or their service, may compare your paper against other students' papers, or compare their papers to yours.

Social Responsibility.

Many people use our machines: students, faculty, staff, and outside visitors. Our machines affect other machines on and off campus and they affect the users of these machines. It is not hard to abuse others by mailing ``spam," ``flaming" to newsgroups, being a ``cracker," displaying digital pornography, bogging down the CPU with processes, or hogging the printer. We expect your use of computer resources will be based on the Golden Rule: do unto others as you would have them do unto you. Poor social responsibility because you are new is one thing, but malicious practices are another matter and will not be tolerated. Do not use BitTorrent or messenger services on IVC Computer Science computers, as these are a common source of computer viruses.

Right to Privacy.

You are encouraged to store *electronic property* on computers provided for your use by Computer Sciences, and you have a privacy right to this information. Others also have a right of privacy to the property they store on our computers. You should not search other's file systems, read their mail, scan or remove their files, try to crack their password, login as someone else, intercept other's network traffic, install viruses, or otherwise violate the right to privacy of others. We will not intentionally abuse your right to privacy. However, to administer our machines we may need to do things you should not, for example, we may need to try to crack your password to verify that it is secure, or kill your processes, or remove your files, or read your email, or otherwise invade your privacy when we suspect you are an abuser of our systems.

Discrimination:

It is the policy of the university that all students, faculty, staff, and guests enjoy an environment free from all forms of discrimination, including ethnic, racial, religious, and sexual harassment.

Disclaimers.

The Imperial Valley College Catalog, and the Student Handbook have additional guidelines on campus standards, behavior, discipline, complaint resolution, etc. The Computer Science Honor Code does not replace or supersede these polices. Faculty teaching computer science courses may establish other *honor* criteria for their classes.

As our machines are part of a larger international network, we assume certain responsibilities as a member of a growing electronic community. Exercising this responsibility may require us to search for suspected abusers of our or others computers. If you suspect that someone has violated your rights as a user of our machines, inform the systems administrator; do not attempt to track them down yourself.

Ideas for this code of honor have been collected from other universities, most notably, Stanford University and the University of Florida.