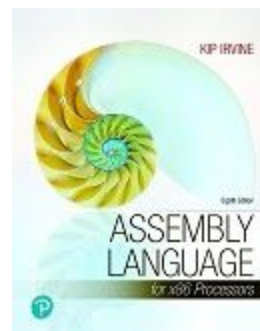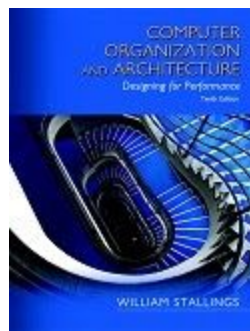**Section Info**

Section 90v - CRN 33140

This Online Section of the course does not meet in a classroom. This section uses a Learning Management System (LMS) called Canvas. See: https://rvcc.instructure.com/

Versions

● Version 0.0 - 6/4/2020 - First Draft

Book Information

There are two books for the course:

Computer Organization & Architecture, William Stallings, Pearson/Prentice Hall, 10th Edition
Note: homework will be from the Stallings Book

Assembly Language for x86 Processors, Kip Irvine, Pearson/Prentice Hall, 8th Edition
Note: To complete the labs in Assembly Language, the Irvine book is a needed reference

Author's Website: http://asmirvine.com/

Instructor

Name: Stephen T. Brower   **Office:** West Building W324 *
Work # (908) 526-1200 x8259 *   **preferred email:** stephen.brower@raritanval.edu

* For Summer 2020, I will not be on campus - the best way to reach me will be via email. I plan on having "drop-in" office hours via Microsoft Teams

Website

Website has information on any changes to "drop-in" office hours (example: none on 7/3). The site has a link to the class page for this course where you can get the Syllabus and Class Schedule. The website does not require you to logon to either Lion's Den or Canvas
See: http://rvccmccs01.raritanval.edu/~sbrower/

For exact timing of "drop-in" office hours (aiming for Monday/Wednesday/Friday late afternoon) see Website

Which Email to use and Email Response Time

If you have a question or have an issue submitting an assignment in Canvas, the preferred (fastest) way to contact the instructor is via his preferred email**:** stephen.brower@raritanval.edu

Over the last several semesters, I found the email system embedded in Canvas frustrating. So please email me at: stephen.brower@raritanval.edu

The goal is to respond in less than 24 hours. Please don't expect a response after 10 pm.

Occasionally there are known exceptions such around 7/4 where a response may take a little longer. If the instructor knows ahead of time there will be a period of unavailability longer than 24 hours, that will be communicated to the class.

Course Overview

This course, which is required for Computer Science students, focuses on the components of computer architecture: storage, data types and structure, instruction set and addressing modes. The course examines the way these components are interconnected and the nature of information flow between them. Students will use Assembler language to reinforce these concepts.

General Education Learning Outcomes

At the conclusion of the course, students will be able to:
1. Apply creative and critical thought in designing computing solutions that demonstrate knowledge of the computer architecture
2. Apply quantitative reasoning to interpret data used in solving problems

Course Learning Outcomes

At the conclusion of the course, students will be able to:
1. Describe the main components of computer systems that define its architecture (CPU, storage, memory, instruction sets, and addressing modes)
2. Discuss the way the main components of computers are interconnected
3. Recognize assembly language syntax while reading and analyzing assembly language programs
4. Design, develop and test programs using MS Assembly Language commands while featuring various basic Assembly Language operations (data/program transfer, arithmetic instructions, indirect memory, addressing, procedures and stack operations)

5. Design, develop and test programs in the MS Assembly Language that include strings, arrays, macros, and conditional processing (Boolean instructions, loops)

Course Management, Structure and Pace

When this course meets in a classroom in a Fall/Spring semester, it meets for approximately five hours a week for 14 weeks (5 * 14). Those students in a traditional class should plan on putting in at least two hours of study time for every hour spent in class for lecture. Additionally, students should plan study time of another half hour for every hour spent in lab. Students who are successful in this class typically spend approximately seven hours *outside of class* each week working on the subject. This includes reviewing class notes, reading and studying the textbooks, doing homework and reviewing assembly code (7*14).

Since this is an online class, you should budget the time that would have been in class and the time that would have been outside of class. 5*14 + 7*14 = 70 + 98 = 168 hours for the semester. Since this summer class meets over 9 weeks that is 168/9 hours a week or 18.67 hours a week.

Course Routine

The "traditional sections" of the course usually consist of 5 possible segments: Architecture Lecture, Architecture Lab Lecture, Assembly Lecture, Assembly Lab Lecture and Lab Time

As an online course, there is no set time for lecture. There are slides to look at, and the Instructor has created < will create > some (lame) YouTube videos.

Architecture Lecture: These slides and videos will be on the Computer Architecture material from the Stallings book.

Assembly Lecture: These slides and videos will be on the Assembly Language material and will include demonstrations in Assembly Language.

Lab Lecture: Some Architecture Labs and some Assembly Labs may need some comments. Some assignments may have videos added to the assignments to point out some items.

Lab Time: As an online course, you will work on the Architecture Labs and Assembly Labs at home on your own. If you get stuck instead of raising your hand you will send an email to the instructor or drop-in to the optional drop-in office hours. You are encouraged to attempt the material prior to the drop-in office hours.

If you have a PC, you should be able to do all of the work from your computer at home. If you have a Mac you are in trouble...seriously.

The approach that the course takes is that assignments are due two days a week, Mondays and Fridays.

Posting Status Page

Since not all of the videos have been recorded yet and not all of the assignments have been created yet, the Posting Status Page in Canvas has estimates for when those items will be ready.

Grade Determinants:

Item	Percent
Homework	10%
Assembly Labs	25%
Architecture Labs	5%
Assembly Project	10%
Exam #1	15%
Exam #2	15%
Final Exam	20%

Grade % Range
A   89.5-100.0+
B+   86.5-89.4
B   79.5-86.4
C+   76.5-79.4
C   69.5 - 76.4
D   59.5 - 69.4
F   0 - 59.4

Software

If you have a PC, you should be able to do all of the work from your computer at home. If you have a Mac you are in trouble...seriously.

The "Visual Studio 2019 - Library Addendum - Overview" page in Canvas has information on acquiring the "Visual Studio 2019 Communityl" software needed to complete the Assembly labs. The same page also has a .zip that contains the Author's Library and a sample project

The Author's Library is compatible with "Visual Studio 2019 Professional" and "Visual Studio 2019 Community".

As of this writing, the "open lab" on campus is not open. If it was open, there are only 8 computers in the open lab in the West Building that have Visual Studio 2019. You should not assume that the lab will open during this summer session

Homework

Homework will only be from the Architecture book and the page/question numbers will be posted in Canvas.

Homework must be submitted electronically via Canvas :
- Typed in assignment
- Typed and saved as a .docx or .rtf file and attached to assignment
- For a problem based homework (S9/S11) you can handwrite, scan/take a pic and the image attached to assignment

See below for the Late Policy(don't be late) and the Cheating Policy (don't cheat)

Assembly Labs

The Assembly Labs will be posted in Canvas (see the Posting Status page in Canvas).

The Assembly Labs correspond to the chapters covered in the Assembly book. They are designed as "In-Class Labs" meaning the intent is that the labs can be completed in about 2-3 hours. Some labs have multiple parts.

To submit the lab the *.asm file(s) must be attached to the assignment in Canvas. This way the instructor can run the assembly code.

See below for the Late Policy(don't be late) and the Cheating Policy (don't cheat)

Architecture Labs

The problem based questions that would have been part of the homework, are now done as an "Architecture Lab". there are only 6 Architecture Labs.

Prior to this semester, the Architecture Labs were distributed on paper and returned on paper. It is possible that some of the Architecture labs may be easier for you to complete on paper and then attach a scan/pic of the paper into Canvas

See below for the Late Policy(don't be late) and the Cheating Policy (don't cheat)

Assembly Project

The Assembly Project will be posted around 8/3 in Canvas.

Unlike the Assembly Labs which can be done in 2-3 hours, the Assembly Project will be a larger more complicated program which will take longer to write. Students in the past ignored this warning, waited until the night it was due to start, were unable to complete it in time, and complained that Brower is a lousy instructor.

To submit the project the *.asm file must be attached to the assignment in Canvas. This way the instructor can run the assembly code.

See below for the Late Policy(don't be late) and the Cheating Policy (don't cheat)

Exams

The schedule has the dates/times of the exams.

If we were in the classroom, Exam 1 would have been closed note / closed book / no electronic devices and would have been on Architecture and Assembly.

Exam 1 will be in Canvas and will be timed - you will have 1 attempt to finish in 60 minutes. The Architecture part will be Short Answer and "Problem" type questions. The Assembly part will have questions that will be either to write a few lines of assembly code or some code will be provided and you have to describe the output and/or show the contents of the registers in hexadecimal.

Exam 2 will be a computer-based "hands on" exam in Assembly. It will be like a timed lab where you have 1 attempt to finish a program in 2 hours.

The format of the Final Exam will be like Exam 1.

For all of the exams, about a week before the exam an "Information Sheet" with format, content, and sample questions will be loaded into Canvas

Late Policy

According to the RVCC Catalog, for a 14 week course students are not to be penalized for 1 week of absences. To accommodate this, at the end of the semester the lowest "Homework"

grade, the lowest "Assembly Lab" grade, and the lowest "Architecture Lab" grade will be dropped.

"Life Happens"

According to the RVCC Catalog, students are not to be penalized for 1 week of absences. To accommodate this, at the end of the semester the lowest "Homework" grade, the lowest "Assembly Lab" grade, and the lowest "Architecture Lab" grade will be dropped. That handles life happens.

Cheating Policy

You must work alone on the Homework, Assembly Project, and Assembly Labs. Cheating is not allowed. All parties involved in cheating will be dealt with according to the school's policy on cheating. The penalty can range from 0 on the assignment to F for the course.

For the assembly labs, asking the instructor for hints is not considered cheating. It is ok to email an assembly file to the instructor to ask for assistance. But, don't expect a response after 10 pm.

NOTE: you have permission to use the instructor's demo .asm files, in whole or in part, for your labs and projects

Extra Credit

Some exams/assignments contain extra credit questions/opportunities. Other than that, no extra credit opportunities will be provided.

For example, if you choose not to submit ANY homework and then in August you ask for "Extra Credit" to make up for the missed homework, the answer is NO.

Class Attendance

Attendance for an online course will be based on discussions and submission of assignments.

For the record, the policy is: Students are expected to attend all classes for every course in which they are enrolled. To accommodate students' reasonable, personal situations that might prevent them from attending classes, each student is entitled to excused absences amounting to the equivalent of one week's class time in a semester. Absences in excess of this standard are handled individually by each faculty member. A student with absences amounting to one-fifth or more of the term's lecture or laboratory classes is subject to administrative withdrawal by the Dean of Instruction upon the recommendation of the faculty member.

Student Handbook

You are responsible for all policies stated in the Student Handbook.
See: http://commons.raritanval.edu/studentserv/conduct/pages/Policies_and_Documents.aspx

Withdrawal Procedure

See school's webpage for Summer 2020 Withdrawal and Refund Schedule and Refund Info (
see:
https://commons.raritanval.edu/admin/finance/Documents/Summer%202020%20WithdrawalRef
undSchedule%20and%20Enrollment_Payment%20Calendar.pdf)

(see: https://commons.raritanval.edu/admin/finance/Pages/refund_info.aspx)

Class Schedule

Please see the Class Schedule for the listing of lecture topics and timing of homework / labs /
project / exams

Syllabus Part 2-College Policies

Please see the "Syllabus Part 2-College Policies" document

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