

**Official TCC Course Syllabus**

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| Discipline Prefix: CSC | Course Number: 215 | Course Title: Advanced Computer Organization |
| Course Section: N01B |
| Credit Hours: 3 | Lecture Hours: 3 | Clinical Hours:  | Lab Hours:  |
| Contact Hours: 3 | Studio Hours:  | Semester:  |
| Meeting Days/Time/Location: Thursdays - 7:15PM – 9:55PM, 01/09/2017 – 05/08/2017, Uboe-E137 |

**Instructor Information**

Name: Charles Cartledge

Office Location: Virtual Office

Office Hours: Wednesday, Friday 4PM to 5PM, By Appointment

Contact Information: 757-633-2581

Course Website (optional):

Blackboard site: [http://learn.vccs.edu](http://learn.vccs.edu/)

Instructor email address (college or VCCS): clc20983@tcc.edu

# **Course Information**

### **Course Description**

Examines advanced topics in Computer Science such as I/O methods, virtual memory, disk management and operating systems.

### **Prerequisites and/or Co-requisites**

Prerequisites - CSC 205

Corequisites - None

### **General Education Core Competencies Supported by this Course**

### After completion of this course, students will be able to:

* **Quantitative Reasoning**
A person who is competent in quantitative reasoning possesses the skills and knowledge necessary to apply the use of logic, numbers, and mathematics to deal effectively with common problems and issues. A person who is quantitatively literate can use numerical, geometric, and measurement data and concepts, mathematical skills, and principles of mathematical reasoning to draw logical conclusions and to make well reasoned decisions.

### **Required Course Texts and Supplementary Materials**

Computer Organization and Architecture Brief Edition, Jones and Bartlett, 4th edition 2013 ISBN-13: 9781284003437

### **Course Learning Outcomes**

* Determine the location of an address when memory is subdivided into chips and banks.
* Write simple machine code for a hypothetical machine.
* Manually walk through a series of machine code instructions.
* Write simple code for a three-address, two-address, one-address, and zero-address machines.
* Evaluate a postfix expression.
* Determine the location in memory of an address using the common addressing modes.
* Determine the speedup of a pipelined computer.
* Predict the location in cache of a memory address for the common cache mapping schemes.
* Determine the Effective access time for a cache machine.
* Translate a virtual address into a physical address for a given page table.
* Describe the advantages and disadvantages of virtual memory.
* Predict the speedup for a machine with a new processor or disk using Amdahl's law.
* Describe the different I/O control methods.

### **Topics Covered in the Course**

* Introduction to a Simple (hypothetical) Computer
* Closer look at Instruction Set Architectures
* The Memory Hierarchy and Cache Memory
* Virtual Memory
* Input/Ouput and Storage Systems

### **Description of Assignments/Assessments**

Assignments will be distributed to reinforce the material covered during the semester. Assignments are graded on a 0-100 scale. Assignment format will vary, ranging from handwritten, computer assignments, group work, and/or in class activities, depending on the topic presented. Specific information regarding assignment submission will be provided with each assignment. A project will be worked on during the course. The project will be a written report based on the chapters in the text and will be delivered incrementally during the course.

Tests/Final will be administered during a regular class period. Test/Final content will consist of multiple choice, short answer, programming, technical, and essay questions.

# **Course Schedule**

The following course schedule may change due to the progression of the course. The course schedule may change at the discretion of the instructor; however, students will be notified in writing when any changes/additions are made to the schedule.

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| **Unit or Week** | **Assignments, Readings, Tests/Quizzes** | **Assignment Due Date** |
| Week 19 Jan | Introduction to a Simple Computer |  |
| Week 216 Jan | Introduction to a Simple Computer Cont.**Martin Luther King, Jr. Day** |  |
| 17 Jan | **Last day to add or change class** |  |
| Week 323 Jan | Introduction to a Simple Computer Cont./Test Review | 26 Jan |
| 25 Jan | **Last day to drop for tuition refund** |  |
| Week 430 Jan | **Test 1**Instruction Set Architectures | 1 Feb |
| Week 56 Feb | Instruction Set Architectures Cont. |  |
| Week 613 Feb | Instruction Set Architectures Cont. |  |
| Week 720 Feb | Instruction Set Architectures Cont./Test Review**Test 2** | 23 Feb |
| Week 827 Feb | Memory |  |
| 9 Mar | **Spring break, no class** |  |
| Week 913 Mar | Memory Cont. |  |
| Week 1020 Mar | Memory Cont.Virtual Memory | 23 Mar |
| 24 Mar | **Last day to withdraw without academic penalty** |  |
| Week 1127 Mar | Input Ouput and Storage Systems |  |
| Week 123 Apr | Input Output and Storage Systems cont. |  |
| Week 1310 Apr | Input Output and Storage Systems cont.  |  |
| Week 1417 Apr | Input Output and Storage systems cont./Test Review**Test 3** | 20 Apr |
| Week 1525 Apr | Alternative ArchitecturesAlternative Architectures Cont.Review |  |
| Week 161 May**Final Exam** | **Final: 4 May 7:15PM – 9:55PM** | 4 May |

### **Blackboard and Course Communication**

Additional information on weekly topics, including PowerPoint slides, notes and videos associated with this course are provided through a web enhanced Blackboard site. It is recommended that students access the site daily outside of class to further their learning experience of the material covered during the semester.

As per TCC policy, all communication for this course, must be conducted through your TCC email account. Personal email addresses will not be recognized. Students should check their email accounts daily for assignment grades, assignment verification, and information on upcoming tests or changes to the course schedule. All assignments and tests are to be submitted through blackboard

Students are encouraged to ask questions on anything they don’t understand. This can be done through email, office hours, or appointment. Students with specific questions regarding an assignment, or any other concern, should put the heading **CSC215 Question** or **CSC215 Help** in the email Subject to ensure a more prompt reply. I will make every effort to reply to these emails within 24 hours Monday through Friday. Questions regarding assignment assistance should be made well in advance to allow timely submission of the assignment.

# **Course Policies**

**1. Attendance Policy**:

All students are expected to be present and on time at all scheduled class and laboratory meetings. Instructors are not required to admit a student who arrives late to the classroom. A student who adds a class or registers after the first day of classes is counted absent from all class meetings missed.

If a student is absent more than 15 percent of scheduled instructional time, attendance may be defined as unsatisfactory. This calculation includes absences occurring during the add/drop period. See also the Withdrawal Policy in this syllabus for more information. Per the college’s attendance policy, faculty has the right to develop a more stringent policy as well. Students who do not attend or participate in class by the deadline to drop for tuition refund may be deleted from the course.

Students will be responsible for all course assignments, lecture notes, handouts and announcements regardless of the reason for absence. If a student is absent from class, he/she may obtain all handouts from Blackboard

**2. Late Work/Make-up Exam Policy**:

Assignments are due by 11:59pm on the assigned day. The time recorded in blackboard will be used to determine submission time. Points will be deducted for late submission. Assignments more than one week late will not be accepted for credit, unless under special circumstances. It is the responsibility of the student to arrange his/her schedule to allow for whatever lab time is needed to complete an assignment. Computer problems and/or incorrectly formatted files will not be accepted as reasons for failure to complete an assignment on time. Tests that need to be made-up will be allowed to under certain circumstances, this will be at the discretion of the instructor.

**3. Statement on Classroom Behavior**:

TCC is committed to maintaining a social and physical environment conducive to carrying out its education mission. Therefore, all members of the TCC community are expected to demonstrate standards for civility.

 Be moderate in speaking. Loud, obscene, argumentative, or threatening speech is disruptive to teaching and learning and is offensive to others. It has no place in an academic setting.

 Resolve any disagreements in a positive, non-combative manner. Request the assistance of college authorities if needed.

 Show respect for the comfort of others in an educational setting by observing acceptable standards for personal cleanliness and dress.

**4. Electronic Devices Policy:**

Cell phones, pagers, and other communication devices are prohibited from use in classrooms, laboratories, and libraries, unless authorized by the appropriate faculty or staff. Although soundless communication devices such as cell phones and pagers are permissible in classrooms, college offices, and/or meeting rooms, they must not be answered during class.

**5. Inclement Weather/Emergent Hazardous Conditions:**

Tidewater Community College uses TCC Alerts to immediately contact and inform faculty, staff and students of a major crisis or emergency. TCC Alerts delivers important emergency alerts, notifications, and updates via:

* Email account (work, home, other)
* Cell phone
* Pager
* Smartphone/PDA (BlackBerry, Treo & other handhelds)

When an incident or emergency occurs, authorized senders will be instantly notified via TCC Alerts. TCC Alerts is a personal connection to real-time updates, instructions on where to go, what to do, or what not to do, who to contact, and other important information. New users may also register by sending a text message to **411912** keyword: **TIDEWATER.** To cancel the service, text **TIDEWATER STOP** to **411911**.

In the event of inclement weather or other situations affecting school operations, students should check Blackboard for Announcements and instructions regarding course progression. Lecture will not be held if delayed openings occur after the start time of class.

**6. Disposition of Classes for Emergency Shutdown of the College:**

*In the event of an emergency shutdown of the college, the president and her executive staff may elect to conclude the term in session if eighty-five percent or more of that term has been completed. If the term in session is concluded, faculty shall compute final grades of students based on coursework completed at that point.*

### **Grade Policy**

Labs/Assignments/project – 45%

There will be several assignments, labs, in-class exercises throughout the semester to reinforce concepts presented in class. Assignments will be submitted through Blackboard. (If equipment other than that available in the TCC computer lab is used, it is the responsibility of the student to properly configure the system to achieve the desired results. The time recorded in blackboard will be used to determine the submission time. Points will be deducted for late submission. Assignments more than one week late will not be accepted for credit. It is the responsibility of the student to arrange his/her schedule to allow for whatever time is needed to complete an assignment. Computer problems and/or damaged files will not be accepted as reasons for failure to complete an assignment on time. Based on the progression of the course, the grade distribution for each assignment may change. However, if changes are made, I will notify students in a timely manner and in writing.

Tests – 30%

Three tests will be administered during the semester. The lowest will be dropped. Test dates can be found in the Course Schedule.

Final Exam – 20%

This is required and will be given in class

Participation – 5%

**Final Grade:**

Your final grade will be the combined average of the previously mentioned areas each weighted as indicated.

The following grading scale will be used: A = 100 – 90

 B = 89 – 80

 C = 79 – 70

 D = 69 – 60

 F = 59 and below

Final grades are made available to each student within the Student Information System (SIS) now web delivered via MyTCC or SIS.

Based on the progression of the course, the grade distribution for each assignment may change. However, if changes are made, I will notify students in a timely manner and in writing.

# **Academic Policies**

Students are responsible for being aware of the policies, procedures, and student responsibilities contained within the current edition of the TCC *Catalog* and *Student Handbook*. Students should familiarize themselves with the college's policies regarding misconduct and inclement weather found in the *Student Handbook*.

### **Withdrawal Policy**

Students who wish to withdraw without academic penalty should contact a counselor to determine the appropriate procedure. Withdrawals through completion of 60 percent of a session will result in a **W** grade. After 60 percent of a session is completed, a withdrawal will result in a grade of **F** in a credit course or a grade of **U** in a developmental course, except under mitigating circumstances that must be documented by the instructor and approved by the academic dean. Dynamic session classes have unique refund and withdrawal dates. Contact a campus Enrollment Services Office for more information, or visit the Academic Calendar website (URL provided in Important Websites section)

A student who drops after the last day to withdraw does not receive a "W." He/she receives an "F," in which case there is both an academic and financial penalty. A student who withdraws by the deadline faces a financial penalty, but not an academic penalty.

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| 25 January | Deadline to drop for tuition refund |
| 24 March | Deadline to withdraw without academic penalty and to receive a grade of **W** for the course |

### **Academic Integrity**

TCC will expect students to demonstrate personal and academic integrity, to be open to new ideas, and to share in a community where individuals from diverse backgrounds and cultures help one another grow intellectually, socially, and personally.

TCC expects students to achieve, not just to get by. And while many caring and talented faculty and staff are here to help, students must take responsibility for their own learning. Students should strive for a high level of academic performance and to be responsible, contributing citizens within the college and in outside communities. Above all, TCC wants students to develop a love of learning that will last a lifetime, along with a life-long interest in maintaining emotional and physical wellness.

### **Student Outcomes Assessment Requirement**

Work products submitted by students to fulfill course requirements may be used by the college to evaluate its academic programs and general education requirements.

### **Statement on Plagiarism and Academic Misconduct**

Academic misconduct includes, but is not limited to, the following actions: cheating on an examination or quiz—either giving or receiving information; copying information from another person for graded assignments; using unauthorized materials during tests; collaboration during examinations; buying, selling or stealing examinations; arranging a substitute for oneself during examinations; substituting for another person, or arranging such a substitution; plagiarism—the intentional or accidental presentation of another’s words or ideas; collusion with another person or persons in submitting work for credit in class or lab, unless such collaboration is approved in advance by the instructor.

Faculty members who have reliable evidence of academic misconduct will (1) investigate the matter, and (2) review the facts of the matter and the proposed penalty with the appropriate academic dean. They may then take one or more of the following actions:

 Require the work to be accomplished again

 Give no credit for the test, paper, or exercise

 Assign a grade of **F**, **U**, or **W** for the course

 Refer the matter to the campus Dean for Student Services or designee for possible disciplinary sanction through the college’s disciplinary procedure

If the faculty member chooses to refer the matter to the campus Dean for Student Services or designee for disposition, the Plenary Disciplinary Procedureshall be followed, and the student’s dismissal from the college is a possibility.

### **Educational Accessibility**

Students who have documented, diagnosed disabilities, and who need special accommodations for tests, etc., are advised to see the Educational Accessibility Disabilities Services staff in Student Services so that the instructor may be notified of what accommodations are appropriate in each case. Requests for accommodations should be made to the designated campus Educational Accessibility counselor at least 45 days before classes begin. Documentation must be provided to support the need for accommodations.

For assistance with disabilities, contact the campus Educational Accessibility Counselor/Provider or the Coordinator of Educational Accessibility Services: call 822-7752, visit Student Services/Development, or visit the Educational Accessibility webpage (URL provided in Important Websites section).

### **Emergency Procedures**

In the event of a bomb threat, tornado, or fire, students and staff may be directed to evacuate the building or move to an internal assembly area location within the building. Evacuation routes are posted in each classroom. The map indicates the route to the nearest exit. Students should review the map to make sure that the exit routes for the building are clearly understood. The information regarding locations of the Emergency Assembly Areas and Internal Assembly Areas for all classrooms or spaces used on the various campuses is available on our Closings and Emergencies webpage (URL provided in Important Websites section). If you will require assistance during an evacuation, let your instructor know at the end of the first class.

# **Student Success Resources**

The following resources are available to TCC students. Visit the *Student Handbook* webpagefor more information about student services and locations (URL provided in Important Websites section).

### **Library**

A library is located at each TCC campus and at the Visual Arts Center. These libraries are intended for research and study, and they contain materials in print and digital format to support the courses, curricula, and mission of the college. The research materials include books, newspapers, magazines, journals, DVDs, streaming media and an extensive collection of indexes, abstracts and full-text databases. Faculty members may place materials on reserve in the libraries for their students. Visit the Library webpage for more information (URL provided in Important Websites section).

### **Academic Support Services**

Each campus provides various kinds of academic assistance. One-on-one tutoring, math and computer labs, and other forms of individual and group assistance may be available. Students can also find free help for writing, from short questions about commas and comma splices to a comprehensive review of research papers in progress, in the Writing Centers.

### **Online Help Desk**

Visit the following website for Blackboard support:

[http://web.tcc.edu/HYPERLINK "http://www.tcc.edu/eLearning" academics/learningtechnologies/support.html](http://web.tcc.edu/academics/learningtechnologies/support.html)

### **Important Websites**

* College Website: [www.tcc.edu](http://www.tcc.edu/)
* Closings and Emergencies: <http://www.tcc.edu/closings-emergencies>
* Blackboard and Student E-mail: [http://my.tcc.edu](http://my.tcc.edu/)
* Educational Accessibility: <http://www.tcc.edu/student-services/personal-support/students-disabilities>
* Student Handbook: <http://web.tcc.edu/student-handbook>
* TCC *Catalog*: <http://www.tcc.edu/academics/catalog/>
* Class Schedule: <https://m.sis.vccs.edu/index.php/app/catalog/classSearch?institution=TC295> (or log-in to SIS for current course offerings)
* Academic Calendar: <http://www.tcc.edu/academics/calendars/>
* eLearning Resources: <http://web.tcc.edu/academics/elearning/index.html>
* For current financial aid information and assistance, visit <http://www.tcc.edu/paying-for-tcc/financial-aid/> or <http://studentaid.ed.gov/>
* Library: [www.tcc.edu/library/](http://www.tcc.edu/library/)

I have read the syllabus and understand all policies and guidelines explained to me.

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Student Name (type)

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Student Signature

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Date