Programming Fundamentals III
COSC-2436-83448

INSTRUCTOR’S NAME: Zoltan Szabo
TELEPHONE NUMBER: 972-238-6059
OFFICE NUMBER: D112 (no course related email questions will be answered unless personal in nature)
OFFICE HOURS: Active schedule posted @ D112
E-MAIL ADDRESS: zszabo@dcccd.edu

Start Date: 03/20/2017
End Date: 05/11/2017
Last Date to Drop With a Grade of W:

Meeting Information (Asynchronous)
Online-Internet Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday Times to be Announced, Room: On-Line
Laboratory Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday Times to be Announced, Room: On-Line

IMPORTANT
No email or phone communication will be allowed in this course. All course related communication must be done using the Discussion Board in order for all students to see questions and answers in a timely manner. Email is only accepted for issues personal in nature. No assignments will be considered for grades that are submitted using email. Assignments can only be submitted using eCampus when assignment links are available. Assignments submitted under the wrong link will not be graded and will receive a 0. It is expected students to communicate with each other and answer questions posted on Discussion Board. It is expected that students prepare questions for live sessions and understand that questions not asked can’t be answered. “I don’t get it.”, is not a question and will not be addressed. Students can request live meetings if the request is made 48 hours before request date/time. Live meetings approval is subject to professor’s schedule and availability.

I. COURSE DESCRIPTION:
Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. This course may use instructional examples and assignments from various programming languages, including but not limited to C, Objective-C, C++, C#, and/or Java. COSC 2436 will satisfy the Associate in Sciences degree general elective requirement. This course will fulfill degree requirements established by the colleges of DCCCD only if this course has been successfully completed and the date of completion does not exceed 10 years. (3 Lec., 3 Lab.)

Coordinating Board Academic Approval Number 1102015707

II. COURSE PREREQUISITE:
COSC1437 (No exception and no concurrent enrollment in prerequisite course is accepted. No prerequisite course that is older than 10 years is accepted as a prerequisite, in this course.)

III. COURSE OBJECTIVES:
- Implement list operations for both sorted and unsorted lists
- Use abstract classes and interface constructs to define abstract data types
- Demonstrate the effect of stack operations in an array based implementation
- Demonstrate the effect of queue operations in an array based implementation
IV. LEARNING OUTCOMES:
- Discuss computer and communications terminology
- Evaluate the effects and implications of computers and communication technology on society
- Demonstrate knowledge of the impact of technology on the individual’s privacy, security, lifestyle, work environment, standard of living, and health
- Gather information for decision-making
- Participate in global communities using available technology
- Create quantitative and qualitative data presentations

V. ACADEMIC COURSE/ WECM / SCANS COMPETENCIES:
- Reading: the ability to analyze and interpret a variety of printed materials - books, documents, and articles
- Writing: the ability to produce clear, correct and coherent prose adapted to purpose, occasion and audience
- Speaking: ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience
- Listening: analyze and interpret various forms of spoken communication, possess sufficient literacy skills of writing, reading
- Critical Thinking: think and analyze at a critical level
- Computer Literacy: understand our technological society, use computer based technology in communication, solving problems, acquiring information.
- Intellectual Competencies and Exemplary Educational Outcomes identified by district discipline
- committees -- see Exemplary Educational Objectives at: https://www1.dcccd.edu/cat0708/ss/transfer/core.cfm

Designated by the Texas Higher Education Coordinating Board for transfer among community colleges and state public four year colleges and universities as freshman and sophomore general education courses.

The Texas Success Initiative (TSI) is a statewide program designed to ensure that students enrolled in Texas public colleges and universities have the basic academic skills needed to be successful in college- level course work. The TSI requires assessment, remediation (if necessary), and advising of students who attend a public college or university in the state of Texas. The program assesses a student’s basic academic skills in reading, writing, and math. Passing the assessment is a prerequisite for enrollment in many college-level classes such as English 1301/1302, History 1301/1302, Math 1414, etc. Students who do not meet assessment standards may complete prerequisite requirements by taking developmental courses in the deficient area and passing them with a grade of C or higher. In some cases retesting will also be required. It is up to each student to be aware and informed about requirements that are subject to change. Additional information is available from the TSI Office in T170T or T170S (phone no. 972-238-6115 or 972-238-3787) or at http://www.rlc.dcccd.edu/regi/resource/tsi.htm
VI. COURSE SPECIFIC LEARNING OUTCOME
All or partial list of the following cognitive skills will be enforced during this course:

a) Consistent file naming standard
b) Consistent naming standard for assignment submissions
c) Programming naming standard
d) Code design (UML, Flowchart, Pseudo code)
e) Logical project organization
f) Code and project organization
g) Proper testing procedures of completed code

VII. REQUIRED COURSE MATERIALS: (on the first day of class)
2) Make sure, you visit the publisher’s website and download the book accompanying source code files http://www.jblearning.com/catalog/9780763757564/
3) USB flash drive to store your works with your name on it and preferably course files and projects stored from COSC 1436. Including BlueJ, GreenFoot, DIA, and HxD software.
4) One three-ring binder: need to bring with you all the time to keep all you papers/hand out
5) Richland College Student ID so that you can use the drop-in computer labs (know the hours of operation)

VIII. COURSE OUTLINE:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>LECTURES</th>
<th>LABS</th>
<th>HOMEWORK</th>
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<tbody>
<tr>
<td>Week 1 3/20 – 3/26</td>
<td>Chapter1: Overview and Java Review</td>
<td>Download and organize Book source files on your storage device</td>
<td>Assignment 1</td>
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<td></td>
<td>Live Session using Blackboard Collaborate</td>
<td></td>
<td>Read chapter 1&lt;br&gt;View Chapter 1 Presentation&lt;br&gt;Review Live Session&lt;br&gt;Create the UML/Flowchart/Pseudo code for all chapter source code files&lt;br&gt;Compile and run source codes&lt;br&gt;Ask questions and/or observations on Discussion Board&lt;br&gt;Find online resources that work for you&lt;br&gt;Help your classmates</td>
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<tr>
<td></td>
<td>Quiz 1 DUE</td>
<td>Assignment 2</td>
<td>Assignment 2</td>
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<td></td>
<td>Chapter2: Array-Based Structures</td>
<td>Assignments 1,2 – DUE</td>
<td>Read chapter 2&lt;br&gt;View Chapter 2 Presentation&lt;br&gt;Review Live Session&lt;br&gt;Create the UML/Flowchart/Pseudo code for all chapter source code files&lt;br&gt;Compile and run source codes&lt;br&gt;Ask questions and/or observations on Discussion Board&lt;br&gt;Find online resources that work for you&lt;br&gt;Help your classmates</td>
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<td>Week 2 3/27 – 4/2</td>
<td>Chapter3: Restricted Structures</td>
<td>Assignment 3</td>
<td>Read chapter 3&lt;br&gt;View Chapter 3 Presentation&lt;br&gt;Review Live Session&lt;br&gt;Create the UML/Flowchart/Pseudo code for all chapter source code files&lt;br&gt;Compile and run source codes&lt;br&gt;Ask questions and/or observations on Discussion Board&lt;br&gt;Find online resources that work for you&lt;br&gt;Help your classmates</td>
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<td></td>
<td>Live Session using Blackboard Collaborate</td>
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<td>Assignment 3</td>
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<td></td>
<td>Quiz 3 DUE</td>
<td>Assignment 4</td>
<td>Read chapter 4&lt;br&gt;View Chapter 4 Presentation&lt;br&gt;Review Live Session&lt;br&gt;Create the UML/Flowchart/Pseudo code for all chapter source code files&lt;br&gt;Compile and run source codes&lt;br&gt;Ask questions and/or observations on Discussion Board&lt;br&gt;Find online resources that work for you&lt;br&gt;Help your classmates</td>
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<td>Week 3 4/3 – 4/9</td>
<td>Chapter4: Linked Lists and Iterator</td>
<td>Assignments 3,4 – DUE</td>
<td>Read chapter 4&lt;br&gt;View Chapter 4 Presentation&lt;br&gt;Review Live Session&lt;br&gt;Create the UML/Flowchart/Pseudo code for all chapter source code files&lt;br&gt;Compile and run source codes&lt;br&gt;Ask questions and/or observations on Discussion Board&lt;br&gt;Find online resources that work for you&lt;br&gt;Help your classmates</td>
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<td></td>
<td>Live Session using Blackboard Collaborate</td>
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<td>Assignment 4</td>
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<td></td>
<td>Test 1 DUE (Chapters 1 – 3) Quiz 4 DUE</td>
<td>Assignment 4</td>
<td>Assignment 4</td>
</tr>
</tbody>
</table>
| Week 5 4/17 – 4/23 | Chapter 5: Hashed Data Structures  
Live Session using Blackboard Collaborate  
Quiz 5 DUE | Assignment 5 |  
- Read chapter 5  
- View Chapter 5 Presentation  
- Review Live Session  
- Create the UML/Flowchart/Pseudo code for all chapter source code files  
- Compile and run source codes  
- Ask questions and/or observations on Discussion Board  
- Find online resources that work for you  
- Help your classmates |
|---|---|---|---|
| Week 6 4/24 – 4/30 | Chapter 6: Recursion  
Live Session using Blackboard Collaborate  
Test 2 DUE (4 – 6)  
Quiz 6 DUE | Assignment 6 |  
- Read chapter 6  
- View Chapter 6 Presentation  
- Review Live Session  
- Create the UML/Flowchart/Pseudo code for all chapter source code files  
- Compile and run source codes  
- Ask questions and/or observations on Discussion Board  
- Find online resources that work for you  
- Help your classmates |
| Week 7 5/1 – 5/7 | Chapter 7: Trees  
Live Session using Blackboard Collaborate  
Quiz 7 DUE | Assignment 7 |  
- Read chapter 7  
- View Chapter 7 Presentation  
- Review Live Session  
- Create the UML/Flowchart/Pseudo code for all chapter source code files  
- Compile and run source codes  
- Ask questions and/or observations on Discussion Board  
- Find online resources that work for you  
- Help your classmates |
| Week 8 5/8 – 5/11 | Chapter 8: Sorting  
Live Session using Blackboard Collaborate  
Quiz 8 DUE | Assignment 8 |  
- Read chapter 8  
- View Chapter 8 Presentation  
- Review Live Session  
- Create the UML/Flowchart/Pseudo code for all chapter source code files  
- Compile and run source codes  
- Ask questions and/or observations on Discussion Board  
- Find online resources that work for you  
- Help your classmates |
| Chapter 9: Graphs  
Live Session using Blackboard Collaborate  
Quiz 9 DUE | Assignment 9 |  
- Read chapter 9  
- View Chapter 9 Presentation  
- Review Live Session  
- Create the UML/Flowchart/Pseudo code for all chapter source code files  
- Compile and run source codes  
- Ask questions and/or observations on Discussion Board  
- Find online resources that work for you  
- Help your classmates |
| Final Exam – Comprehensive Chapters 1 to 9  
Final Project DUE  
No later than end of day on 5/11 |  |  |  
- Review and redo all chapter contents  
- Review all chapter presentations  
- Recompile and reanalyze all source codes  
- Review all your assignment solutions |

**Notice:** Live sessions are conducted using Blackboard Collaborate software. Students must have the Blackboard Collaborate client software installed on the system they will use for this course. Blackboard Collaborate client can be installed on devices running Windows, Linux, iOS, and Android operating systems.

**Disclaimer:** The course assigned professor, Richland College, and DCCCD shall not provide technical support for students’ own devices. Richland College and DCCCD is not responsible for providing reliable internet service to students enrolled in this course and do not assume liability for any software packages installed on non-district owned devices. Adverse effects and data loss may occur due to software installation mistakes, compatibility issues, and pirated software downloaded from non-reputable sources. Instructor posted and suggested download sites are not verified, thus they’re the students’ responsibility to verify and ensure software compatibility including malware avoidance. Students must provide their own technical support options and Internet connection in order to be successful in this course. The professor is not required to provide any type of technical support and does not require to accept technical issues as an excuse for late assignment submissions. Risk management, timely resolution of software licensing and technical issues are the sole responsibility of students enrolled in this course.
IX. EVALUATION PROCEDURES
As posted on course website – Grading Rubric

X. EXAMS AND ASSIGNMENTS AND GRADING SCALE
After the final grade is posted on the eConnect, you have 2 days to discuss about the grade with your instructor for any reasons. After 2 days, the grade will become permanent grade and any late concern is not acceptable.

Final Grades will be available through the touchtone telephone system at 972-613-1818 or on-line through eConnect at www.econnect.dcccd.edu. They will also be displayed on the Student Advising Report which is available in the Admissions and Student Records Office, T170.

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<tbody>
<tr>
<td>Quizzes</td>
<td>10 points x 9 quizzes</td>
<td>90</td>
</tr>
<tr>
<td>Assignments</td>
<td>20 points x 9 home works</td>
<td>180</td>
</tr>
<tr>
<td>Exams</td>
<td>100 points x 3 exams</td>
<td>300</td>
</tr>
<tr>
<td>Final Project</td>
<td>100 points x 1 Project</td>
<td>100</td>
</tr>
<tr>
<td>Discussion</td>
<td>50 points x Discussion Board</td>
<td>50</td>
</tr>
<tr>
<td>Total Score</td>
<td>720 points</td>
<td>100%</td>
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</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>648 - 720</td>
<td>&gt;=90%</td>
</tr>
<tr>
<td>B</td>
<td>576 - 647</td>
<td>&gt;=80%</td>
</tr>
<tr>
<td>C</td>
<td>504 - 575</td>
<td>&gt;=70%</td>
</tr>
<tr>
<td>D</td>
<td>432 - 503</td>
<td>&gt;=60%</td>
</tr>
<tr>
<td>F</td>
<td>&lt; 432</td>
<td>&lt; 60%</td>
</tr>
</tbody>
</table>

XI. ATTENDANCE POLICY
In order to be successful students must attend and participate in enrolled courses.
Students need to submit your work on time. This section will not require students to engage in class activities during published holiday periods recognized college wide. Attendance will be measured based on Discussion Board activities posting relevant and chapter related observations, analysis, and sharing of scientifically relevant information related to the course. Confirmation of answers and posting questions are not considered for grade while answering student questions or replying to professor initiated discussions are considered toward the Discussion grade component. Attendance is also measured by statistical analysis of students’ activities on the eCampus.dcccd.edu course website including the length of time spent on posted resources.

XII. CLASSROOM (ONLINE COURSE) POLICIES:
Quizzes – Quizzes will be enabled for the duration of the applicable chapter coverage period (refer to the course outline for reference). You will have two chances to answer randomly generated questions from the applicable chapter. All quizzes will be time restricted.
Lab Assignments – The assignment will be posted on eCampus at the start of the applicable chapter coverage date and due at the conclusion of the applicable chapter (Refer to the course outline for reference). Each student will have to complete each assignment by him or herself and submit on eCampus before the due date in a required format. (Refer to the Syllabus tab on the course website)
Although, it is encouraged to discuss problem solving concepts, approach strategies, algorithmic choices, and generic ideas about the assignments, each student will have to complete the code individually. All collaboration of generic concepts must be done on-line using the Discussion Board as a communication channel where the professor can limit what is considered collaboration and what is considered collusion or plagiarism. Any collaboration outside the course website will be considered plagiarism.
Final Project – Individual project will be assigned on week 7th and submit by the due shown in the course outline. Refer to the Lab Assignments guideline for accepted student collaboration.

Late works: The late assignments be accepted. If there is any qualified reason, students should contact the instructor before the due date.

Exams must be taken on the date specified. Anyone missing any exam with an excused absence may be given an alternate test. This test will be provided at the discretion of the instructor.

- For an absence from a test to be excused: There must be documentation provided to the instructor prior to the test date showing a reason(s) for not being able to attend the exam (examples: medical appointment that could not be scheduled at another time, attending a funeral) and the reason must be agreed to by the
instructor, OR there must be documentation provided to the instructor within two class days after the test (AND before the next test) that demonstrates an emergency that precluded the student from taking the test (examples: emergency medical treatment of student or student’s child, auto accident). As a proof, student must provide official documentation with exact date(s) and a name and contact information for person verifying the event.
- Anyone missing a test with an unexcused absence will receive a grade of zero on the test.

Anyone caught sharing/copying questions and/or answers from any assignments BOTH OWNER AND COPIER will receive zero at the first time. Second occurrence will result in an automatic F final grade for this course and college disciplinary action may be initiated by the professor.

SUGGESTED SUCCESS SELF-POLICIES FOR STUDENTS ONLINE
Taking on-line courses is less restrictive and seemingly easier, but many aspects can affect the outcome and the successful completion of online courses. You have to be very good in time management, disciplined learner, and technically adept. Here are some suggestions that you can follow:
- Have a reliable computer that is checked for malware on a regular interval. Don’t forget, you will have to make sure that your computer is operational. No excuses will be given for missed due dates due to technical failures.
- Have the technical support for eCampus and for your computer handy just in case you’ll need it.
- Have a contact information for a friend or family member ready who can help you with technical issues. ( your professor can not provide technical assistance or any other help not related directly to chapter topics )
- Know the weather and do not delay taking an exam or uploading assignments in bad weather.
- Have the contact information for your Internet Service Provider technical support help line handy.
- Create a clean and organized learning environment
- Write due dates and important milestones in multiple places like your phone, paper calendar that you keep on your desk, and learn to use eCampus calendar tool.
- You should build a quiet and room or corner where no family members or pets are allowed and you can organize your school materials by courses you take
- Utilize cloud providers to backup and save works completed and those that are in progress
- Give yourself enough time to prepare for exams and take notes on paper
- Start on assignments, especially coding assignments as soon as you see them assigned
- Do not start on assignments without reading the applicable chapter, run all the sample codes, view all professor provided materials, and wrote your own notes about the topics.
- Ask questions using the discussion board and let your classmates and professor help you as soon as possible
- Do not ask questions that could have been located easily, people will stop responding you when you really need it if you ask unnecessary questions and they find out that you are not even trying in the first place
- You must silence the phone/beeper during test sessions. No electronic devices, such as, laptop and ip phone are allowed during the test besides the device you use to take the test.
- Talking to somebody during test time about something that does not relate to course content must be done after the test.
- Do not eat or drink during test.
- You are responsible for my own actions and decisions. Blaming others for your own bad choices and decisions should be avoided

XIII. ACADEMIC PROCESS
Students are encouraged to discuss academic goals and degree completion with their instructors. Specific advising is available throughout the semester. Check www.richlandcollege.edu/admissions/process.php for more details.

XIV. INSTITUTION POLICIES
Refer to the Richland College website: www.richlandcollege.edu or to https://richlandcollege.edu/employees/syllabus-institutional-policy-statements/

XV. QEP: LEARNING TO LEARN: DEVELOPING LEARNING POWER
"Richland’s Quality Enhancement Plan (QEP) aims to provide techniques, practices, and tools to help students develop the habits and dispositions needed to be effective lifelong learners. The goal is to help students succeed in college and in life."

QEP Core Team:
"Richland's Quality Enhancement Plan (QEP) provides techniques, practices, and tools to help students develop the habits, traits or behaviors needed to be effective lifelong learners empowering success in college and in life."