Syllabus
COSC-160 – Data Structures - Fall 2017

Instructor: Jeremy Bolton, Ph.D.
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Office Hours: Daily hours will be entered on Course calendar
(or by appointment)

TAs: TBD (see Course calendar for office hours)

This course is designed as a second year course for majors and minors and covers basic data structures and algorithm analysis. Starting with the art and science of analyzing algorithms, the main goal of this course is to learn various techniques for organizing data so that computer programs can access, modify, and delete data efficiently. Topics covered include basic data structures (for example, lists, stacks and queues), trees, hashing, heaps, disjoint sets, and graphs, self-adjusting data structures; worst-case, average-case, and amortized analysis; and basic problem solving techniques. The topics are theoretical in nature but have dramatic impact in practice.

Credits: 3
Prerequisites: COSC-052 and (COSC-030 or MATH-200)

References:

- **[Dz]** Drozdek, *Data Structures and Algorithms in C++, 4th*, Cengage, 2013
- **[Cm]** Cormen et al, *Introduction to Algorithms, 3rd*, MIT Press, 2009

Grading:

Quiz: (1)10%
Exams: (2) 60% total
Programming Projects: 20%
Assignments: 10%

Grading Scale:

Grade	*Range*
A	[90,100]
A-	[85,90)
B+	[80,85)
B	[75,80)
B-	[70,75)
C+	[65,70)
C	[60,65)
C-	[55,60)
D	[50,55)
F	[0,50)

Submitting Assignments: Assignments will be posted on Blackboard. All electronic submission requirements (source code, reports, conclusions, etc.) should be posted to Blackboard prior to the due date and time. Source code should be text files with the appropriate extension. Other file formats will be specified in the project description if applicable, naming conventions will be specified in the project description.

Additionally, please note:

- All programming projects will have a grace period. Beyond this period no submission will be permitted and, if no submission by the end of this period is received, a grade of zero will be assigned. If extraordinary circumstances arise which do not permit submission by the deadline, *you must inform / contact the instructor or TAs prior to the deadline* (not grace period) to request special arrangements. **In general, special arrangements will not be granted.**
- The grace period will be determined by the class as a group.

Notes about coding and coding practices:

Coding projects are an integral part of this course! It is assumed that you have a proficient understanding of a programming language. Students are responsible for learning and/or reviewing, as needed, the programming language chosen.

Cheating will not be tolerated. Any form of cheating will be reported to the GU honor council. Please read the following guidelines for project submissions:

- Discussion among students pertaining to project content and general methodology is allowed; however, students are NOT ALLOWED to share code, copy code, or use code of others without an explicit disclosure. Note: although the use of code that is not completely of your design is permitted (with appropriate disclosure), you will not receive (full) credit for the corresponding portion of your submission.
- A student may be asked to present, demonstrate, or explain a project submission at any time, without notice. At my sole discretion, a student's project grade can be adjusted based on this presentation, demonstration, and/or explanation. If a student does not sufficiently understand or explain their submission, further action may be taken.
- Due Dates will be posted on Course Calendar or announced in class.

Exams:

- Exam Dates will be posted on Course Calendar or announced in class.
- No make-up exams or early exams will be provided.

Attendance: Attendance and active class participation is recommended. You will be responsible for everything covered in class.

If you need to leave the classroom during a lecture feel free to do so as quietly as possible. Please turn off cell phones or set them to vibrate prior to the start of class. Food and drinks are not allowed in the classrooms.

Academic Honesty and Expectations: I am required to report any suspicion of academic dishonesty to the Honor Council.

- Exams: must be entirely your own work. During exams, you are not allowed to view any other students work, show any other student your work, or engage in any discussion. Exams will be closed book and closed notes unless otherwise specified.

Weekly Class Schedule: The course schedule is provided on blackboard. It is possible that inclement weather, such as a snow emergency; or some other event could shut down the Georgetown campus. If that happens our class may meet as scheduled using Blackboard Collaborate or ZOOM. See blackboard announcement for Updates.

Course topics, administrative guidelines, and other specifics discussed in this syllabus are subject to change. Notice of any changes will be provided in class or on Blackboard / Canvas.