

# CSCD300 Data Structures

(Winter 2015)

Computer Science Department  
Eastern Washington University  
Cheney, WA 99004

## Course Description

This course covers fundamental abstract concepts of data structures as well as their implementation in a programming language. Topics include linked lists, stacks, queues, hashing, recursion, complexity analysis of algorithms, and binary trees. Programming projects are required.

- Credits: 5
- Prerequisite courses: CSCD 211 with a minimum grade of 2.5, MATH 105 or MATH 115 with a minimum grade of 2.0.

## Instructor

- Dr. Bojian Xu, Assistant Professor of Computer Science.
- Office: 309 CEB
- Email: bojianxu@gmail.com (preferred), bojianxu@ewu.edu
  - Email is my preferred contact method.
  - You all please send emails from your **EWU account** so that your identities can be verified.
- Phone: (509) 359-2817
- Office hours (CEB309): 2-3pm, Tuesday and Thursday. In addition, feel free to stop by for short conversations whenever his office door is open, but **please** make appointments in advance for long discussions.
- Web: <http://penguin.ewu.edu/~bojianxu>

## Grader

Ms. Maria McCauley (mariamccauley@eagles.ewu.edu)

## Time and Location

Monday–Friday, 11:00 am–11:50 am. Place: CEB204‘

## Required textbook

Data Structures and Algorithms in Java, 5th Edition, by Michael T. Goodrich and Roberto Tamassia, ISBN 978-0-470-38326-1.

Note: You can also buy the 3rd or 4th edition with a lower price. The reading assignment will be given according to the 5th edition. If you buy old editions, you will need to find out the corresponding reading assignment by yourself. You can get good deals from online used book stores.

## Topics

Link list, recursion, algorithm analysis, stack, FIFO queue, sorting, hashing, binary trees.  
Disclaimer: this set of topics will be subject to refinement as the quarter progresses.

## Homeworks and Exams

- All assignments will be posted on the Canvas system and need to be submitted on the Canvas system by the deadlines.
- Late submissions will not be accepted. Submit anything that you have by the deadlines.
- There will be multiple exams. Each exam only covers the set of topics that are not covered by previous exams. That means each exam is equally important and the final exam is not comprehensive. Graded exams will be returned to students for review and will be re-collected by the instructor after the review.

## Grading

- Weights
  - Exam: 50%
  - Homeworks: 50%
- Final Grade Calculation
  - From the following formula: ***4.2*** – (( 100 – Avg. Percentile Score) / ***12***)
  - The values shown in bold italics are guaranteed minimums—they may be increased in the final formula (for your benefit) but will NOT be less than these values.
  - The instructor keeps the rights to increase grades above this formula (which is to your benefit).

## Course Policies

- ADA: Americans with Disabilities Act: If there is any student in this class who has special needs for accommodation, please feel free to discuss the matter with the instructor. Students requiring accommodations need to contact Kevin Hills, Director of Disability Support Services (DSS). He can be reached at (509) 359-6871. The DSS Office is located in 124 TAW.
- For exams, all technological devices (such as iPods, computers, calculators, cell phones, BlackBerries, watches with memory) must be kept in a sealed backpack or left with the instructor or proctor. The possession of any such device during the exam will be grounds for a charge of academic dishonesty. If the student has an emergency situation and must be able to receive phone calls, the student may leave the phone, turned on, with the instructor or proctor and then accept any calls that arrive.
- No makeup exams will be given without prior arrangements being having been made, or in the case of a DOCUMENTED emergency after the fact.
- Discussions are encouraged in doing the assignments, but each student must write the submission in his/her own words.
- You are expected to act in accordance with the department's 'Code of Professional Conduct for Students' found on the Computer Science Department website (<http://access.ewu.edu/Computer-Science/Code-of-Ethics.xml>). This means cheating will not be tolerated. Students who copy another's program/work may be subject to severe disciplinary action, which may include a course grade of 0.0 and a written statement in his/her permanent record. You are also expected to act in accordance with the EWU academic integrity policy available at: <http://access.ewu.edu/Undergraduate-Studies/Curriculum-and-Policies/Academic-Integrity.xml>
- To avoid leaving temptation in others' way, be sure that you do not leave your source code or other work on the shared disks in any of the labs.
- Incompletes. Incompletes will NOT be granted except under extreme circumstances. They will not be granted in cases where you were simply unable to keep up with the workload. Requests for an incomplete must be submitted prior to finals week and is subject to the following catalog restriction: "PASSING work/progress (2.0 or above) must be demonstrated through three weeks prior to the end of the term."
- Disclaimer. The instructor reserves the right to make changes to these policies as necessary. You will ALWAYS be informed of these changes in class.

## **Disability Support Services (DSS)**

If you need DSS, please find the item(s) below that match your needs. The item(s) that match your needs must be documented in a letter written by the DSS office and has been received by the instructor.

- If you want to record the video and/or audio of a lecture, you need notify me in advance and get my permission. This requirement is needed for every lecture.
- Lecture slides will be posted online. These lecture slides are well written and informative. If you still want to find a note taker, please particularly inform me again to help you find one.
- If you need to sit in a specific seat area in the classroom but you are not able to find one, please let me know in class.
- If you need to use computer or some other necessary digital devices in class and/or for homeworks, please feel free to do so.
- If you are allowed to have extra time for exams, it is YOUR responsibility to schedule with me well in advance (within a week before the exam) for your exam place and time for EVERY exam. You will be given double exam time.
- If you are allowed to have extra time for homeworks, it is YOUR responsibility to ask for my permission to get extra time. This permission needs to be given homework by homework. That is, you need to ask for such permission for EVERY homework when needs arise.
- If the items that you need is not listed here above, please particularly notify me in person.