IC312: Data Structures
Course Policy

ABET Student Outcomes

ABET requires this course policy to list the student outcomes promoted by this course. This is not a list of things you will learn, but instead a list of things all CS and IT majors should be able to do upon graduation which are reinforced by this course.

b) An ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
c) An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs;
e) An understanding of professional, ethical, legal, security, and social issues and responsibilities;
g) An ability to analyze the local and global impact of computing on organizations.

Instructor

Asst. Prof. Gavin Taylor MI-344 x3-6816 taylor@usna.edu

Learning Objectives

1) Understand the fundamentals of algorithm analysis;
2) Possess an understanding of the concept of abstraction and be able to describe the idea of separation of implementation and interface;
3) Recognize and apply the canonical ADTs (Lists, Queues, Stacks, Trees, Priority Queues, Dictionaries, and Graphs) appropriate for solving a problem.
4) Demonstrate the ability to implement the canonical ADTs with: arrays, linked lists, binary trees, hash tables, balanced trees, and other similar structures.
5) Be proficient in defining and coding recursive algorithms, including recognizing when recursive solutions are appropriate

Course Web Page

http://www.usna.edu/Users/cs/taylor/courses/ic312/

The course website will be used to post course homework assignments, supplemental notes, project assignments, and other items of interest. You are responsible for the information posted on the course web page. Check it often.

Recommended Text

None.
Grading Policy

We know how to program. Code that does not compile will be treated harshly.

**Homework:** There will be some, both written and coded. Homework is due at “class time” of the date stated. In other words, if you are in my second period section, and homework is due, for some reason, on a Thursday, it is due at 0855 that Thursday. You may seek help from your classmates on Homework assignments. See the section on Academic Integrity.

**Programming Projects:** The course features three programming projects, which must be done as an individual effort, with my help. Failure to comply with this policy will result in zero credit for the assignment at a minimum. See the honor section for details of further possible action. There will be no exceptions to this policy.

**Exams:** Three of ’em. Final is cumulative.

**Late Work:** Homework and Projects may be submitted late, with the following subtractive penalties:

- 1 day      15%
- 2 days     40%

**Absences:** You must ensure your work is submitted on time regardless of other commitments, i.e. duty, sick call, MO, etc. Should bona fide emergencies arise, it is your responsibility to notify the instructor within a reasonable time period and negotiate an extension as appropriate.

**Course Grade:** The breakdown of the final course grade will be:

- Homework: 15%
- Midterm exams: 30%
- Final Exam: 20%
- Projects: 33%
- Quizzes: 2%

**Academic Integrity**

I take this seriously.

Students are expected to understand and abide by the Brigade Honor Concept. Additionally, students are responsible for adhering to USNA and Computer Science department policies on graded work, which may be accessed at [http://www.usna.edu/cs/resources/honor.htm](http://www.usna.edu/cs/resources/honor.htm).

Collaboration is allowed and encouraged on homework. **ALL COLLABORATION MUST BE CITED.** This includes getting help from an instructor other than Dr. Taylor.

If after collaboration, you are turning in work you do not understand, this will be considered a breach of the Honor Concept, as it is impossible for collaboration to lead to such a situation.
**Programming Projects:** Projects in this course must be done on an individual basis. Work submitted must be entirely that of the student's. The following are considered clear violations of academic integrity:

- Working with another student to derive a common program or solution to a problem.
- Discussing the details required to solve a programming assignment.
- Representing the work of others as their own.
- Copying source code (programs) in whole or in part from someone else, regardless of how it was obtained.
- Copying files from another student's disk, even if they were unprotected.

In no way is this an exhaustive list of academically dishonest acts. Students should never make assumptions as to who can provide help on a programming assignment. It is their responsibility to seek clarification from the instructor.

It is acceptable to discuss the nature of a project with classmates. In other words, you may discuss what the assignment is asking for, but NOT how to implement and solve that. Code or the steps leading to the solution of the problem should never be discussed with or shown to anyone except the instructor.

Submitted programs are subject to automated analysis to detect cheating.

Evidence indicating a violation of this policy on academic integrity will be forwarded to the Brigade Honor Staff as violation of the Brigade Honor Concept.

**Extra Instruction**

I'm very available for EI, and consider it just as much a part of the course as actual class time. Check the calendar on my site, and contact me with a time to meet.

Submitted,  
Asst. Prof. Gavin Taylor

Approved,  
Prof. Steve Miner