**Syllabus for CS 324, Design of Algorithms, Spring 2018**

Meetings: Mondays and Wednesdays, 5:40 p.m. – 6:55 p.m. in room **LWH-3016**

**FACULTY INFORMATION**

**Instructor:** Jonathan Murfey

**Office Location: LWH -** 3006

**Office Hours:** Jan 08 – May08: Mondays& Tuesdays: **7:00pm – 8:00pm**, Or by appointment – contact me and we can arrange a time to meet.

**Phone Extension:** (773) 442-4727

**E-mail:** j-murfey@neiu.edu

**Textbook:** Foundations of Algorithms, Fifth Edition. Neapolitan. Jones and Bartlett Publishers, 2011. ISBN: 978-0-7637-8250-4.

**Prerequisite:** You must have received a "C" or higher in CS-304, Data Structures.

**Course Description:** We will study different classes of algorithms, including Binary Search / Divide and Conquer, Recursive and Dynamic Programming, Greedy, Brute Force and efficient Backtracking, We will discuss the efficiency of algorithms, running time and space requirements, using big-O notation. We will cover representing problems as a graph data structure and solving them with classic path algorithms.

**Y**ou will have to write algorithms using JAVA—if you are not currently proficient in programming, you will have difficulty passing this course.To that extent, we will do weekly online programming assignments to improve our confidence in our programming ability.

**Grading**: The programming projects and exams will be weighted as follows:

**Quizzes**: There will be several quizzes this semester. They will be taken either during lecture or on-line. They may be brief (10 minutes) or take up the majority of class time.

**Midterm Exam**: The midterm exam will be held at the 8th week, during entire class time.

**Final Exam**: The final exam will be on either on the last regular day of class, or during finals week.

**Make-ups:**If you cannot attend the midterm or final exam because of religious reasons or because of a previously scheduled conflict of a *serious* nature, you must send me an email telling me the date and the reason you cannot attend in order to be eligible for a makeup. If you miss the midterm or the final exam due to a serious medical emergency, you must submit adequate medical documentation from your doctor in order to be eligible for a makeup.

**Grading**: The programming projects and exams will be weighted as follows:

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| --- | --- |
| **Item** | **Weight** |
| **(C) Class Participation / Attendence / Assignments** | **10%** |
| **(Q) Quiz(es)** | **20%** |
| **(M) Midterm** | **30%** |
| **(F) Final Exam** | **40%** |

Your **Weighted Average (WA)** = .10(C) + .20(Q) + .30(M) + .40(F)

|  |  |
| --- | --- |
| **Weighted Average** | **Course Grade** |
| **90% or higher** | **A** |
| **75% – 90%** | **B** |
| **60% – 75%** | **C** |
| **45% – 60%** | **D** |
| **0% – 45%** | **F** |

**Programming Assignments:**

1. You must write your programs by yourself. You may use the textbook and your lecture notes, and you may ask me or the tutor for help. However, you ***may not share any files of any sort with anyone, and you may not receive any files from any tutor or any person other than me***. If I determine that you have shared code or files or if two or more people turn in identical or essentially identical programs, you will receive a ‘**0**’ for that assignment. If it happens again, you will receive an '**F**' for the course and may be subject to further academic discipline as per NEIU Student Code.
2. Assignments will be turned in electronically. Include all files (program code, input files, and output files, **but NO .class files**) in a folder with your name, and create a zip file. Then submit this zipped folder through Desire2Learn. We may also have assignments submitted as jar files.
3. Unless otherwise noted, assignments will be due on Wednesdays by 5:40 p.m. (start of class). There is a grace period until Friday (the next day) at 11:59 a.m. You will lose **12% for every 24 hours** (1 point for every 2 hours) **your assignment is late** (starting at noon on **Friday**). This includes Fridays, Saturdays and Sundays. Once a solution is posted, no credit can be given.

**Absence Policy:**

You will need to attend class in order to understand the material. Attendance will be taken and will count towards the class participation portion of your grade. If you cannot make it to class, please let me know.

**Academic Integrity Policy:**

By enrolling in this course, you are bound by the NEIU Student Code of Conduct: <http://www.neiu.edu/university-life/student-rights-and-responsibilities/student-code-conduct>. You will be informed by your instructor of any additional policy specific to your course regarding plagiarism, class disruptions, etc.

**ADA Statement:**

Northeastern Illinois University (NEIU) complies with the Americans with Disabilities Act (ADA) in making reasonable accommodations for qualified students with disabilities. To request accommodations, students with special needs should make arrangements with the Student Disability Services (SDS) office, located on the main campus in room D104. Contact SDS via (773) 442-4595 or <http://www.neiu.edu/university-life/student-disability-services>.

**Campus Safety:**

Web links to Campus Safety: Emergency Procedures and Safety Information can be found on NEIU*port* on the MyNEIU tab or as follows: <http://homepages.neiu.edu/~neiutemp/Emergency_Procedures/MainCampus/>.

**ADDITIONAL INFORMATION**

**Learning Support Center**

The Learning Support Center (LSC) provides peer-directed academic tutoring for individuals and groups in the following areas:

* General Education courses
* Writing
* Reading
* Math Development and college level math
* Academic Coaching

The primary emphases are promoting active learning strategies, encouraging student engagement, and providing content support. Academic support is provided to students who are seeking assistance with understanding course concepts and preparing assignments, along with developing an improved learning system for college which includes motivation, academic engagement, brain-based habits for college learning, and learning strategies for note taking, textbook reading, and test taking.

Tutors are graduate and undergraduate students who are carefully selected on the basis of their own academic achievement by faculty and given supervision, training, and support to serve as tutors, mentors, and academic coaches. Additionally, the LSC provides all NEIU students an area for learning groups and an opportunity to learn with other students. Appointments are strongly encouraged, and students are welcome to drop in to discuss their individual academic support needs.

For more information, visit the LSC website at [www.neiu.edu/lsc](http://www.neiu.edu/lsc) or, to schedule an appointment with a tutor, call 773-442-4568.

**Center for Academic Writing**

The Center for Academic Writing (CAW) provides peer tutoring for students enrolled in officially-designated Writing Intensive Program (WIP) courses. WIP peer tutors, who are recommended by faculty and hired and trained by CAW, are affiliated with specific WIP courses and provide discipline-specific writing support. WIP peer tutors help students of all abilities become better writers by helping them focus on every step of the writing process - from brainstorming ideas, prewriting, and outlining, to drafting, revising, and editing. Students do not need to have a completed draft to meet with a WIP peer tutor. WIP peer tutors can provide the most effective help if students come early in the assignment process and return throughout the semester.

Students should speak with their WIP course instructor and/or contact CAW for more information about WIP peer tutoring. Information is available on the web at [www.neiu.edu/caw](http://www.neiu.edu/caw). Students can stop by CAW on the fourth floor of the Ronald Williams Library or call 773-442-4492 to make an appointment.

**Course Communication**

All pertinent class communications between the instructor and students is conducted exclusively through NEIU e-mail. Thus it is the responsibility of students to check their NEIU e-mail account for all significant information and updates on class cancellations in the event of threatening weather conditions. Communication between the instructor and students via personal e-mail accounts (e.g., @gmail.com or @yahoo.com) will not occur.

**Incompletes**

An “I”(incomplete) may be given if a student is absent from the final examination or fails to complete a special research or individual study project because of some unavoidable circumstance such as illness.

Students will have two semesters (including Summer) after the incomplete grade has been assigned to remove the incomplete. Incompletes that have not been removed within two semesters will be changed to an “F”grade. This policy does not apply to Thesis Seminars or master’s project seminars.

**Late Work**

Late work is strongly discouraged. Note: It may not even be possible to turn in the work late as we will cover it in class. Turning in work late can impair your chances of success in the course. This late work policy applies to all graded assessments (including the final examination) in the course, with the exception of the discussion threads. Because class discussions require us all to participate during the week when they are active, no make-up or late credit will be allowed for discussion participation. I understand that unexpected things can come up, so the late-work policy for our course is outlined below.

Serious Emergencies: For serious emergencies, your instructor will decide whether your late work may be accepted for full or reduced credit. Serious emergencies include things like serious illness, accidents, natural disasters, and university server outages. E-mail your instructor the information about your emergency and request approval to make up the assignment, lab, quiz, or exam. If you receive approval, make up the work according to the plan set by you and your instructor.

All Other Unexcused Late Work: Unexcused late work includes course work that is turned in late because of things like job-related, technical, or other personal issues. Your instructor will decide whether your late work may be accepted. Your instructor will impose a per diem late penalty of 5% of the assignment points per day, up to seven days. To request an extension on an assignment, please request approval BEFORE the final deadline.

Submission of Assignments: Students are expected to complete all assignments. Failure to submit any assignment will result in a zero on that assignment and an additional deduction of 10 points per missing assignment. If homework solutions are shared with the class, your instructor reserves the right to decline to accept late work after the sharing of the solutions, or to require that an alternative assignment be completed, if one is available. Only one unexcused, non-emergency late submission will be allowed per student per course.

**ADDITIONAL:**

1. **Makeups:**
   1. If you cannot attend an exam or quiz because of religious reasons or because of a previously scheduled conflict of a *serious* nature, you must send me an email prior to the exam telling me the date and the reason you cannot attend in order to be eligible for a makeup exam.
   2. If you miss an exam or quiz due to a medical emergency, you must submit adequate medical documentation from your doctor in order to be eligible for a makeup.
2. **Cheating:**
   1. **Plagiarism**: If you turn in the same or **essentially** the same file as someone else, this is PLAGIARISM. ***This is a very serious offense***. Please do not do this. If you do, you may receive an automatic '**F**'for the course and may be subject to further academic discipline as per NEIU Student Code.
   2. All exams and quizzes will be closed-book. No electronic devices will be allowed in the exam. The only things you may bring to quizzes and exams are writing implements and your Northeastern photo ID. You are required to bring your NEIU photo ID, which I may check.
   3. You may not give assistance to anyone or receive assistance from anyone but me when taking any quiz or exam. This includes, but is not limited to, looking at other people's papers during the exam, looking at books or notes brought to the exam, and communicating in any way with anyone besides me. If you do, you may receive an automatic ‘**F**’ for the course and may be subject to further academic discipline according to the NEIU Student Code.
3. **Miscellaneous**
   1. You are responsible for checking Blackboard for assignments, announcements, and turning in homework.
   2. *I reserve the right to move anyone’s seat during any lecture or exam without explanation*.
   3. **NO**hats, sunglasses, or anything that prevents me from seeing your eyes, may be worn during exams.  
      If you need to wear any such item for religious or other reasons, you must email me within the first three weeks of the semester.
   4. **NO** cell phones, audible pagers, or any electronic devices are allowed during lecture or exams unless allowed by me. If your device makes noise during an exam, I may deduct points from your exam.
   5. There will be **NO** extra credit projects to improve your grade. ***Do NOT ask me for extra work to improve your grade***. Instead, pretend that you have ***already failed*** the class and each assignment and exam ***is*** your extra chance to improve your grade.
   6. No "**I**" grade (Incomplete) will be given, unless you are passing the class at the time of your medical or other emergency (sufficiently documented) and you don't have sufficient time to drop the course.