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Computer Architecture and Systems Organization
Spring 2024

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CSCI 463   TTh 12:30 PM - 1:45 PM   PM-103

1. Basic information

1.1. Instructor. Dr. Reva Freedman

1.2. Email address. rfreedman@niu.edu

1.3. Office hours. Tue 3:30-5:00 PM in PM-554. If you would like to have a private conversation, I would be happy to make an appointment with you with a couple of days notice. I usually can't satisfy last-minute requests. Often appointments will be on Fridays.

1.4. Course web sites. The course web site is `http://www.cs.niu.edu/~freedman/463/` .
Most course materials will be on Blackboard under CSCI 463.
Occasional sample code will be on turing at `~t90rkf1/d463` .

1.5. Course goals. To understand the architecture and organization of computer systems and related software. Emphasis will be placed on how computers execute programs and other issues relevant to programming.

2. TA information

2.1. TA information. There are two TAs for this class and both have taken the course before. TA hours have been spread out to provide as much coverage as possible. Your TA will also answer reasonable questions by email (I do not expect them to repeat the entire lecture). Both will also be happy to make appointments with you, including online, within reasonable limits – if you write to them an hour before the homework is due, they probably will not be able to help you until the following morning. Your TAs are listed below in alphabetical order.

2.2. TA #1. Carter Davis, z1891607@students.niu.edu, M 2-3, Tue 9-12, F 12-2 in PM-356. Appointments may be available TThF.

2.3. TA #2. James Yahnke, z1926968@students.niu.edu, MW 2-5 in PM-356. Appointments may be available TThF.

3. Communication

3.1. In person. I will be happy to talk to you about questions or concerns at any time, including any topic relating to this course, artificial intelligence or computer science in general. I am also happy to talk to you about personal or career issues to the extent that I can be helpful. I encourage you to address small problems before they become big problems, not the day before the exam.

3.2. Announcements. Late-breaking news, e.g., errors in assignments, weather emergencies, and any other type of emergency, will be posted on Blackboard. Blackboard announcements will also be sent to your email if you have the correct settings set. Personal messages will be sent to your

NIU email. I suggest you check both every morning.

3.3. University announcements. If the university is closed for weather or other reasons, please check Blackboard announcements and your email to see whether class will be held on Zoom or cancelled.

4. Email

I triage email to be as helpful as possible to you. Therefore emails that you can answer from other sources will have the lowest priority.

4.1. Relevant email. I appreciate emails discussing bugs in assignments, suggestions for class, useful information, interesting articles, and similar things. I may not answer email if the answer can be obtained elsewhere. If the answer to your question is in the syllabus, check the syllabus first. If you miss class, you are expected to find out what was covered from another student. If you have a reference question, e.g., the meaning of a specific error message, Google it first.

4.2. Email response schedule. I try to respond to email by the next business day. That means that an email you send on Tuesday should be answered no later than Wednesday. I also generally check my email once on Sunday in order to start the week without a backlog.

4.3. For questions about assignments, talk to your TA first. There are two TAs for this class and they are both experts in the topic. If you still have problems, let me know what your TA said so that we can all be on the same wavelength. *Do not send pictures of text, i.e., copy and paste the text instead.* Questions requiring major assistance are usually best handled in person.

4.4. Questions about debugging. If you need debugging help, follow the directions on the course administration document as to the appropriate format to send. In general, you need to send something in the same format that you would submit. Include information on what happened and what you expected to happen.

4.5. Do not send duplicate emails. There is no need to send email to more than one email address; my email addresses all forward to the same place. Don't send a second copy of an email if you haven't given me time to answer the first one.

5. Resources

5.1. Attendance. Attendance is required in order to form a learning community. In addition, much of the material is not easily available elsewhere. However, I will not explicitly take attendance. I occasionally give unannounced quizzes. Any quizzes will be extra credit, i.e., they will add 5 points to your assignment total. There are no makeup quizzes. If you arrive after the quiz, you have missed the quiz.

5.2. Class material. You are responsible for all material covered in class. If you miss a class, you must get notes from another student before the next class, *not from the instructor*. Research has shown that students who attend class regularly do better regardless of other behaviors.

5.3. Blackboard. Slides used in class will be posted at some point after the lectures in which they are used. Although many or most class materials will be posted on Blackboard, that is for your convenience. This is *not* an online class, and there is no assumption that you can learn

everything without coming to class.

5.4. Class participation. Class participation is encouraged and will make the class more interesting for you and for other students. If you have a question, there are probably three other people with the same question who are even more shy than you.

Please ask ASAP if you don't understand, if I make a mistake, if you are curious about the utility of an algorithm or its application, or if you are just curious about something. Questions about details, big ideas, concepts, algorithms, examples, related ideas and applications are all welcome.

6. Assignments

6.1. Types of assignments. There will be approximately 9 assignments. Most assignments will involve calculations and code appropriate for an architecture class.

6.2. Due dates. The full schedule is on the web. Changes will be announced in class and posted on the web.

In general, you will receive extra credit of 10% (rounded) of the points available for the assignment for assignments submitted 24 hours before the deadline. There will be a penalty of 10% (rounded) of the points that you received for the assignment for each day or portion of a day for late programs. No assignments will be accepted more than 2 days late. I suggest you submit your assignments by 11:58 PM to make sure they are received on time. If any assignments follow a different schedule, that will be specified on the assignment sheet.

In general, there are no waivers of the late penalty or extensions beyond this period. No assignments may be submitted after the answers are posted. No assignments may be submitted after the last day of classes.

6.3. Submission rules. All programs must be submitted according to the assignment sheet. In general, you must upload a copy of the spreadsheet given. Do not change the format of the spreadsheet.

6.4. Administrative penalties. There will be a penalty (generally 10 points) for not following directions, e.g., not following naming conventions, changing the format of the spreadsheet, and similar issues.

6.5. Naming conventions. Every student will be assigned a FLID ("four-letter ID"). Make sure that all quizzes, assignments and exams contain your 4-letter ID as well as the quiz, assignment or exam number.

Make sure that assignments submitted on Blackboard use the naming convention specified in the assignment, which includes your 4-letter ID and the assignment number. The naming convention is case-sensitive. For files, your 4-letter id is always lower case.

6.6. Grading criteria. Every assignment will include a rubric stating how points will be assigned. If there are any programs, they must be comprehensible to humans. If multiple versions (e.g., source, object, and/or output) are required, they must be consistent.

6.7. Programming standards. If there are any programs, they must follow the standards on the course web page. You may not use external code (from other people or from the web) without

permission.

6.8. Grade correction deadline. If you believe your assignment has been graded incorrectly, you must see the instructor within one week after the grades have been posted.

7. Exams

7.1. Date of midterms. There will be two midterms. See schedule for details.

7.2. Date of final exam. The final exam will be on the date scheduled by the registrar at `https://www.niu.edu/registration-records/dates/exams/index.shtml` under Standard Exams, namely Thursday, May 9, noon-1:50 PM. In exceptional cases, such as another Covid shutdown or a weather emergency, changes may be made to the exam schedule or format.

7.3. Form and content of exams. Exams will include material from the lecture notes and assignments. The exams will be traditional closed-book, closed-notes exam. Exam formats may include multiple choice, fill-in-the-blank, short answer questions and related formats. Questions will assume that you have not only done the homework but learned from it, i.e., copying answers from the slides without understanding may give you a working program or the correct answer but is less likely to give you the level of understanding you will need for the exams.

7.4. Academic integrity policy for exams. Exams will be conducted in accordance with the department's academic integrity policy, which is available on the course web site.

7.5. Cumulative aspects of exams. Exams will not be cumulative. Each exam will cover one section of the course material.

7.6. Review sheets for exams. For each exam, a review sheet will be posted listing all the possible conceptual questions (in a somewhat different format). Examples for the calculation or programming questions on the exams will be available from the homework. In addition, I will post answers to the homework when the review sheet is posted.

7.7. No makeup exams (in general). You are expected to take the exams on the assigned time and date. Missing an exam is an extremely serious matter: makeup midterm exams will only be given if *all* of the following requirements are satisfied: (a) an unavoidable reason (e.g., car accident), (b) advance notification, (c) written documentation, (d) permission of instructor. For a makeup final exam, all of the above are required in addition to permission of the department.

7.8. University final exam rule. Please notify me if you meet the university's criterion for rescheduling a final exam, namely that you have three finals on the same day and this course is the highest-numbered of the three. A makeup final can also be given if you have two overlapping finals. If the conflict results from another instructor changing the assigned time, that instructor is responsible for the makeup exam. The university deadline for scheduling a makeup final is Monday of the last week of classes. A printout of your schedule will be required.

8. Grade calculation

Each homework will be assigned a point count according to difficulty and the amount of time required. Grades will be calculated as follows: Exams 60% (20% each) and assignments 40%. Grades will not be curved or rounded. Grades will be calculated according to the following

schedule:

Grade	Average
A	>= 90
A-	>= 89
B+	>= 88
B	>= 80
B-	>= 79
C+	>= 78
C	>= 70
D	>= 60
F	< 60

9. Classroom decorum

In classes for freshmen, I state the following rule on the syllabus: "No activity that interferes with learning, i.e., one that may distract other students or the instructor, is permitted in class. For example, eating, talking (whether in person or on the phone), newspaper reading, and regularly being late or leaving early are not permitted." In a class for seniors and graduate students, I assume it is not necessary to state such a rule explicitly; however, the rule remains in force.

Research has shown that activities such as texting and checking your email interfere with *your* retention of the material, however, they in general do not interfere with other people's ability to concentrate. Thus if you need to communicate with colleagues during class, texting and email are excellent ways to do so. Please do not sit in the front row if you intend to engage in these activities, as it is distracting.

10. Special circumstances

10.1. Types of special circumstances. Students with special needs (disability accommodation, religious observances, required military service, major illness or other unexpected events) are encouraged to contact the instructor as soon as possible. I am always willing to talk to students. There is a specific section on disability accommodations below.

10.2. Non-special circumstances. Having a lot of work for your other classes, being busy at your job, and network problems are *not* special circumstances; they are normal circumstances that everyone has.

11. Disability accommodations

The instructor will provide all of the accommodations to which you are entitled by law.

If you need an accommodation for this class, you must provide a notification letter from the Disability Resource Center. Once you provide a copy of the notification letter, we will have a private conference to determine how your approved accommodations will be handled in this class. This conference must be held and agreement reached before any accommodations can take effect. No accommodations will be allowed retroactively.

If you wish to take your exams at the DRC office, you must also follow DRC regulations with regard to exam scheduling.

For these reasons you should contact the DRC as soon as possible. They are located on the 4th floor of the Health Services Building, and can be reached at 815-753-1303 or drc@niu.edu. Also, please contact me privately as soon as possible to discuss possible accommodations – there is no need to wait until you have received the notification letter.

12. Academic integrity

You are encouraged to study together, however, that does not mean doing assignments together. Practice on problems from class, from the slides, or your own problems. Do the programs and any written assignments yourself.

You are expected to do your own work on the homework, programs and exams. Cheating includes, but is not limited to, copying work from other students, copying work from other textbooks, copying work from the Internet, or allowing others to do the same, whether deliberately or not.

You may not post material from this class, including answers to the homework assignments, on any public web site.

All cheating will result in the filing of an academic misconduct form and will affect your course grade, with the possibility of failing the course and/or losing your student job. The penalty for a first offense is usually two letter grades. Note that a second academic misconduct offense may result in your expulsion from the university.

We may use mechanized source comparison on the assignments.