Class name  Analysis of Algorithmic Complexity
Sections  CS 353-01 (4940)
Regular meeting times  M., W., F., 12:05-1:00pm
Meeting room  Centennial 2212
Course website  http://cs.uwlax.edu/~jmaraist/353-spring-18
Prerequisites  CS 340, MTH 207
Catalog description  An in-depth analysis of the computational complexity of a wide range of algorithms for problems of fundamental importance to computer science. Algorithms to be examined include: sorting, pattern matching and various graph algorithms.

Instructor’s name  Dr. John Maraist
Office location  209 Wing Technology Center
Email  jmaraist@uwlax.edu
About  http://cs.uwlax.edu/~jmaraist
Office hours and appointments  My office hours and appointment availability are listed on the course website. To make an appointment, ask by email at least one school day ahead of time.


Important dates
Monday, January 22  First class
March 12-16  Spring break
Wednesday, May 9, 2:30-4:30pm  Final exam
• The final exam date and time is set by the university. Do not plan to leave for holiday travel until after this date.

Tentative schedule of topics
Weeks 1-2  Introduction (Chapters 1-2)
Weeks 3-4  Graphs (Chapter 3)
Weeks 5-6  Greedy algorithms (Chapter 4)
Weeks 7-8  Divide-and-conquer algorithms (Chapter 5)
Weeks 9-10  Dynamic programming (Chapter 6)
Weeks 11-14  To be decided (likely from Chapters 7-9)
Assessment

There will be several measures of your achievements in this class.

Weekly work Every week, you should expect there to be homework problems and quizzes. Some weeks will have both; others, just one. Some quizzes will be announced beforehand; others, not. Some problems will be for presentation to the class; others, not. Most quizzes will be on Friday at the beginning of class; most homeworks will also be due on Fridays at the beginning of class. Most pieces of weekly work will be weighted equally, although some quizzes will be longer and will count double, and other variations may occur at my discretion. Especially where problems are prepared for presentation, out-of-class assignments may be individualized.

Final exam The final exam will be comprehensive. Where the weighted score on the final for some topic is higher than your score for that topic on some piece of weekly work, the former will replace the latter for that piece of weekly work.

I will mark each piece of assessed work on a 27-point scale:

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<tr>
<th>Score</th>
<th>Grade</th>
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<tr>
<td>23-27</td>
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<td>D</td>
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The various components of this class will be weighed as follows:

- Weekly work 40%
- Presentations 10%
- Final exam 45%
- Professionalism 5%

I reserve the right to revise the assessment procedures of this class if enrolment rises above nine. In such a case, I would give you an updated syllabus in Week 2 of the class.

Procedures and policies

Email and web page

The course website will be the primary means of communication information across the whole class; electronic mail will be our primary means of personal communication.

Course Website. The main web page for this class is listed at the beginning of this document. All class announcements will be posted to that page, and you
are responsible for checking it regularly. That page also includes an RSS feed for updates. There are several services which will provide email updates from RSS feeds which you can find by a web search; if you choose to use one, pay attention to how often they check the feed and send email.

**Email.** I will expect you to check your email regularly, and to read and understand messages relevant to this class. In particular, my feedback on your work will be delivered by email. By default I will use your school email address which I receive as part of the information about you that the university gives me, but I am happy to also use a different email address if you email it to me from your school email address. It is your responsibility to make sure that I have an email address which you can and will access regularly, and which you check at least once per business day. Note that we will **not** use electronic mail for submitting assignments; see the *Submission and assessment of assignments* section below. My university email account is the only forum which I regularly check; you should not attempt to communicate with me for class business via other email addresses, or other forms of social media.

For assistance with email or other matters relating to university computer and network services, contact [ITS](#) by phone at 608/785-8774, in person on the first floor of Wing Technology Center, or by email to [helpdesk@uwjx.edu](mailto:helpdesk@uwjx.edu).

In general, during the semester I will respond to emails within one business day. When you use email, make sure that you:

**Include your full name.** There is a small army of new students each semester, and one of me. Make sure it’s easy for me to know who you are.

**Mention this class by name or number.** All of your instructors are almost certainly teaching more than one section.

**Write professionally.** Observe the forms of casual business writing, write in complete sentences, and use your spell-checker. Keep in mind that email to an instructor about a class is a different medium, and requires a different voice, than texts to a friend.

I have posted links to a number of guides to effective emailing on a [web page of resources](#), accessible from my University home page given above.

**Attendance**

I expect you to attend class. Our class meetings will be the only source for much class material, and will be the only venue for quizzes and presentations. There are no "makeups" for quizzes or in-class participation opportunities. If you miss class, it is your responsibility to get notes from a classmate. We will not use class time, nor prioritize office hours and appointment times, to review things missed due to nonattendance.

Final examination times are scheduled by the university; make sure to plan any end-of-semester travel around them. Should an exam need to be rescheduled according to the university’s limit on the number of exams a student may take on
the same day, you must give me notice as soon as you become aware of this situation. I will normally reschedule your exam to the first exam slot before our normal class slot in which you are not taking and I am not giving another exam, or similarly after if our normal slot is on the first day of exams.

Admission of latecomers to an examination may be refused after any student completes the exam and leaves the exam room.

**Submission and assessment of assignments**

Most homework will be submitted in writing, and will be due by the beginning of class. On written homework I expect

- Legible work. There will be no credit for work I cannot read.
- Letter-sized paper. If you are tearing paper out of a spiral notebook, cut off the frills so that the edge of the paper is straight.
- Multiple sheets stapled together.
- Work on one side of the paper only.
- Work in blue- or black ink, or in dark pencil.
- Margins of at least an inch, so that I can write comments directly on your paper.

After you have completed the course, copies or records of your graded material that I retain will be accessible up to 7 weeks into the next academic term (namely Spring after Fall or J-term; or Fall after Spring or Summer).

I plan to provide feedback on submitted work and quizzes by the following class.

**Assignments submitted late**

If I receive your homework before I finish grading the rest of the class’s work for that assignment, you will earn half-credit for assignments submitted late. If I receive your homework after I finish grading the rest of the class’s work, you will receive no credit for the late work. You may deliver late work to my office, sliding it under the door if I am not in. Note that the time of delivery of your work is irrelevant to whether I receive it before grading an assignment.

See the *Accommodations for individual circumstances* section below for extenuating circumstances that impact your ability to meet deadlines or participate in class activities.

**Equity of course execution**

This course will be delivered and assessed fairly, in the specific sense that all students in this section will have equivalent opportunities to demonstrate their mastery of the subject, and will be assessed according to the same criteria. The only assessed work and the only criteria for assessing that work, and thus for the grades derived from it, will be as set forth in this syllabus.

Mindfully attempting to be assessed by more lenient criteria than one’s colleagues, or by criteria other than the work for and conduct in this class as described in this syllabus, is unprofessional and will be considered a form of academic misconduct.
Errors and regrading

If you find an error in the evaluation of your work, you have the right to ask for it to be regraded.

- All requests for regrading must be by email.
- All requests for regrading must detail specifically where the suspected error was made, and what the error is.
- All requests for regrading should be made no sooner than 24 hours, but within one week, of the evaluation of the work being returned to you. If the assessment of some piece of work is returned in stages, the deadline for requesting a regrade will be within a calendar week of when the report containing the suspected error is returned to you.
- To ensure that a uniform standard is applied across the class, all regrading will use the same criteria and rubric applied to everyone else.
- In general, an entire assignment or exam may be regraded in response to a regrading request, even if your request addressed only a proper subset of the original. So make sure that errors to your detriment outweigh errors in your favor.

You will always be notified of errors I find in the evaluation of your work after it is returned to you, as well as any resulting change to your grade, even if you did not request a regrade.

Collaboration

I encourage you to work together to understand course material. Learning together is a great way to learn and share ideas, and is a useful professional skill. However, in order to actually learn something, it is important that you complete the real work of analysis on your own. It is acceptable to discuss the general approach to an assessed problem with each other, and to discuss and solve other, unassessed problems together. However:

- It is not OK to write solutions together, or to copy solutions from anyone inside or outside of the class.
- It is not OK to simply copy solutions, whether from online, a book or printed article, other people, or any other source. You can use online references to get additional explanations of how a problem works, or to learn general techniques. But the only way to actually gain analytic skill is to produce solutions yourself.

Any improper behavior with respect to these guidelines will be dealt with as academic misconduct according to University policy.

Academic integrity and acceptable use policies

Academic misconduct is a violation of the UWL Student Honor Code and is unacceptable. I expect you to submit your own original work and participate in the course with integrity and high standards of academic honesty. When appropriate, cite original sources. Plagiarism or cheating in any form may result in a diminished grade or failure of the assignment or of the entire course, and may
include harsher sanctions. As necessary I will use resources provided by the university or other services to verify the originality of submitted work. Refer to the Student Handbook for a detailed definition of academic misconduct.

In general,

• You can share ideas, but you may never share code or actual problem solutions.
• You must independently write all of the solutions you submit and never copy solutions from anyone inside or outside of the course to complete an assignment.
• You are expected to be able to fully explain every solution you submit, and may be asked to do so for any given assignment.

In interpreting these general guidelines, "you" should be taken to mean the unit designated to complete one assignment. Except where explicitly stated otherwise in an assignment, all assignments are individual assignments, and it is individuals who may not collaborate. Where an assignment is explicitly deemed to be a group assignment, the individuals within a group may freely share material with each other, but never with individuals in other groups.

The article 'Avoiding Plagiarism' on the Murphy Library website offers helpful information on avoiding plagiarism. You may also visit the Office of Student Life if you have questions about plagiarism or cheating incidents. Failure to understand what constitutes plagiarism or cheating is not a valid excuse for engaging in academic misconduct. Acadia University offers a light-hearted ten-minute interactive tutorial on avoiding plagiarism at library.acadiau.ca/sites/default/files/library/tutorials/plagiarism

UWL and UWS policy also mandates responsible use of shared computing resources. In particular, your authorization for the use of administrative server resources such as course management systems (like D2L or Canvas), program submission and autoevaluation systems (like AutoLab or WebCat), the course website, or other assigned systems is strictly limited to the purpose described in course assignments and other material. Any disruption, exploration and/or exfiltration of system components is strictly prohibited, and may also constitute academic misconduct. More information about the UWS policy on Acceptable Use of Information Technology Resources is available at www.wisconsin.edu/regents/policies/acceptable-use-of-information-technology-resources

Professional conduct

Interacting with peers and with me in a constructive, respectful and professional manner, being a constructive and supportive presence in class, handling difficulties with grace and resilience, operating as an autonomous and responsible adult, fulfilling commitments, and approaching work with enthusiasm are all valuable professional (and life) skills, and are firm expectations of this class. Part of your final grade in this class will be determined by the quality and consistency of your professional conduct, whether online, in class, or in office hours.
One aspect of being a constructive and supportive presence in class is simply not being disruptive to the class. Attendance carries the obligation of being a constructive presence, or at least, a non-disruptive presence. In particular:

• Cell phones and other electronics must be silenced for the duration of class. Consider using an app like Shush! or Silent Time (for Android), or AutoSilent (for iPhone) to manage silencing your devices automatically.

• If you need to arrive to class late or leave early, be mindful of creating a minimum of disruption: sit near the exit and on the end of the aisle, pack lightly, and avoid using materials in class which are noisy on packing/unpacking.

• Research has shown that screen use in class is distracting not only to the student using a device, but also to that student’s neighbors. So if you plan to use a screened device in class, I’ll expect you to sit in the back row so that your screen distracts the fewest people. Likewise, if you plan not to use a screened device, you should sit away from the rearmost rows.

In cases of egregious, repeated or persistent disruptive conduct, of mindful discourtesy or of any intimidation of anyone in class, or of isolating or shaming conduct based on gender, race or other identity issues, I may require you to leave class immediately, possibly on an ongoing basis.

Findings of academic misconduct and/or unacceptable use of course resources may also result in loss of graded credit for professional conduct. In particular academic misconduct on a project, major assignment or any examination, as well as multiple instances academic misconduct and/or unacceptable use of course resources, will result in the loss of most if not all credit for professional conduct.

**Concerns or complaints**

If you have a concern or a complaint about either the course or me, I encourage you to bring it to my attention. My hope would be that by communicating your concern we would be able to come to a resolution. If you are uncomfortable speaking with me, or if you feel your concern has not been resolved after bringing it to my attention, you can contact my department chair or the Office of Student Life.

The Student Academic Non-Grade Appeals process can be found in the Student Handbook. Information about appeals and petitions for academic matters is in the UWL Catalog.

**Sexual harassment**

As an employee of the University of Wisconsin-La Crosse, I am a mandated reporter of sexual harassment and sexual violence (which include sexual assault, domestic violence and stalking) that either takes place on campus or otherwise affects the campus community.

So if I receive detailed or specific information about an incident such as the date, time, location, or identity of the people involved, I am obligated to share this with UWL’s Title IX Coordinator in order to enable the university to take appropriate
action to ensure the safety and rights of all involved. It does not matter whether the incident took place on- or off-campus; it matters only that a person who is a member of this campus was involved in the incident.

It is possible that course assignments may lend themselves to disclosure, but you should not share any details of an incident with me until you have discussed your options under the new Title IX guidelines. There are confidential reporters available to students at UWL where you can have this discussion.

For students not wishing to make an official report, there are confidential resources available to provide support and discuss the available options. The contact in Student Life is Ingrid Peterson, Violence Prevention Specialist, 608/785-8062, ipeterson@uwlax.edu. For more resources or to file a report, please see www.uwlax.edu/violence-prevention.

I am also happy to help direct you to counseling and support services. Simply ask me to assist you in locating a confidential reporter and I will help you to do so.

**Class interruptions and cancellations**

In the event of a campus incident that impacts the availability of teaching spaces, any changes or cancellations will be communicated to you via your university email account. Depending on the incident, some or all of the information might be posted on the UWL home page.

In the event of inclement weather, we will follow the University’s closure policy. If classes are not canceled, I will make every effort to be in class on time, and so should you. Please do not send me email asking whether class is going to meet; instead, check the university website. The university’s emergency readiness plan is available online; that page also describes sign-ups for individual emergency alerts.

**Accommodations for individual circumstances**

It is my goal that all students have equivalent opportunities to succeed in this class. This section discusses the general procedures for alternative assessment accommodations in this class, as well as a number of specific situations for which there are standard mechanisms and policies in place to achieve the goal via accommodations for individual circumstances.

**General procedures and constraints.** Students may propose alternative assessments for individual assignments and exams for matters outside of a student’s control such as documented non-chronic illness, bereavement, unplanned university equipment unavailability, or university program travel or activities.

- Proposals for alternative assessment must be made at least ten calendar days before any relevant deadline or exam. If a proposal cannot be made in time due to medical or other emergency, the proposal should be made at the earliest possible point.
- Any accommodation must ensure that the required objectives for this course
are assessed as thoroughly as under standard procedures. Although I am
certainly willing to support the process, it is ultimately your responsibility to
propose assessment alternatives which are necessary to accommodate your
circumstances (and endorsed by the ACCESS Center or other campus author-
ity as such), and which give an equivalent measure of your achievement.

• All requests for accommodation should be accompanied by appropriate sup-
porting documentation. In most cases this documentation will be reviewed by
a separate group on campus such as the ACCESS Center or Veterans Ser-
vice Office, and I will not see specific details. Where no such campus group
applies, the specific form of documentation will be at my discretion.

• Alternative assessment proposals should address relevant big-picture issues
in addition to immediate course matters.

• Alternative assessment proposals must be explicit, and must be sent only by
email or in writing.

• Students proposing alternative assessments should never simply assume that
their proposal will be granted verbatim.

• Extracurricular and student groups/activities, planned personal trips, and sim-
nilar elective activities are not considered to be outside of a student’s control,
and do not qualify for alternative assessment.

• Accommodations are generally not available for the on-campus activities of
other classes. Do not schedule activities for other classes during the lec-
ture/lab/exam times of this class; you are not "free" at those times.

• I will avoid recording incomplete grades as part of an alternative assessment
plan for any situation which has previously been addressed by accommoda-
tion, whether at UW-L or other institution, whether via the ACCESS Center or
not. Incomplete grades will also not be used where an advisor’s or other cred-
ible recommendation for a reduced load, for a particular semester or on an
ongoing basis, was disregarded or avoided.

**Disabilities and medical conditions.** Accommodations for a documented dis-
ability or medical condition are made via the ACCESS Center. Students must
contact The ACCESS Center and meet with an advisor to register, and to de-
velop and propose alternative assessments.

• Examples of the disabilities and conditions for which this procedure applies in-
clude, but are not limited to: ADHD; autism spectrum disorder; acquired brain
injury; PTSD; and physical, sensory, psychological, or learning disabilities.

• The ACCESS Center is located at 165 Murphy Library, and is reachable by
phone at 608/785-6900 and by email at ACCESSCenter@uwlaux.edu.

In addition to registering with The ACCESS Center, it is the student’s responsi-
bility to discuss their academic needs with instructors.

Interactions with the ACCESS Center and with instructors should be initiated
promptly. For issues and conditions identified prior to the semester, you should
contact the ACCESS Center prior to the semester in order to propose and con-
firm an accommodation plan before assignments are due. For issues arising
during the semester, you should contact the ACCESS center to initiate their accommodations process within three business days of a diagnosis. Accommodations will not be applied retroactively in the case of a delay in initiating the ACCESS Center process. Once some alternative assessment accommodation is arranged for you via the ACCESS Center in this class, any other accommodations for you as well as any changes or extensions to your accommodations, including those arising from changes in your underlying condition or disability, must also be arranged via ACCESS Center procedures (see Changes to accommodations below).

You can find out more about services available to students with disabilities at The ACCESS Center website, www.uwlax.edu/access-center.

Veterans and active military personnel. Veterans and active military personnel with special circumstances (e.g., upcoming deployments, drill requirements, disabilities) are welcome and encouraged to discuss these issues with me, and I expect you to do so as far in advance as possible.

For additional information and assistance, contact the Veterans Services Office, www.uwlax.edu/veteran-services. Students who need to withdraw from class or from the university due to military orders should familiarize themselves with the university’s current military duty withdrawal policy, catalog.uwlax.edu/undergraduate/academicpolicies/withdrawal.

Religious accommodations. Per the UWL Undergraduate and Graduate Catalogs, "any student with a conflict between an academic requirement and any religious observance must be given an alternative means of meeting the academic requirement. The student must notify the instructor within the first three weeks of class of specific days/dates for which the student will request an accommodation. Instructors may schedule a make-up examination or other academic requirement before or after the regularly scheduled examination or other academic requirement."

University athletics. Student athletes are expected to submit the semester’s full schedule, including expected travel times and possible championship tournaments, by the end of the first week of class. I realize that your coaches’ official letter may not be ready by that time: that letter can come later. But you are able and expected to collect and convey the information yourself, and later follow up with the official documentation.

Changes to accommodations. Accommodations can change by mutual consent to reflect changed circumstances. Changes should follow the same review and implementation mechanism as the original accommodation; in particular where the ACCESS Center reviewed and recommended original accommodations, I will expect changes or parallel accommodations to be reviewed and recommended through the ACCESS Center.