

# CS 5820/CS 6820

## Compiler Design

### Fall 2020

“Learning is essentially pleasurable.” – Kenneth Eble

Instructor	Robert Ball
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#### Course Information

Where CAE 142

When 9:30am – 10:45am

Required Textbook: *Engineering: A Compiler* by Keith Cooper and Linda Torczon. ISBN-10: 012088478X ISBN-13: 978-0120884780

#### Description

A study of compilers, grammars, finite-state and push down automata, scanning, parsing, error handling, semantic analysis and code generation.

Prerequisite: CS 2420 and CS 4110 (recommended)

#### Fall 2020 Covid-19 Additional Information

<https://www.weber.edu/wsuiimages/academicaffairs/Forms/StudentExpectations.pdf>

<https://www.weber.edu/wsuiimages/academicaffairs/Forms/DigitalAddendumtoCourseSyllabus.pdf>

All individuals (faculty, staff, students and visitors) are required to wear face coverings when indoors on university property with limited exceptions. More extensive information is available at

<https://www.weber.edu/coronavirus/face-coverings.html>

## Office Hours

	Monday	Tuesday	Wednesday	Thursday	Friday
8:45					
9:00	Office Hours		Office Hours		
9:30		CS 5820/6820 CAE 142		CS 5820/6820 CAE 142	
10:00					
10:30					
11:00					
11:30					
12:00		Meetings			
12:30					
1:00					
1:30					
2:00					
2:30					
3:00					
3:30					
4:00					
4:30					
5:00					

## Email, Time to Reply, and Weekends

Email: Please do **not** use the Canvas email. It is unreliable and I may or may not get it. If you want to email me, please email me at [robertball@weber.edu](mailto:robertball@weber.edu)

Time to reply: During the week, it may take me up to 24 hours to reply to an email. I will try to be as fast as possible. However, if you email out of normal business hours (8am - 5pm) I may not reply as quickly as you like. I have a life and being your instructor is my job, not my life. The best way to get a reply from me is to attend class.

Weekends: If you email me on the weekend please do not expect a reply until Monday morning.

## Course Fees

Course fees for the Computer Science major are designed to cover the costs of lab equipment maintenance and replacement including desktop and server computer systems and software; consumable materials and supplies; and support for lab aides, student tutors, and online instructional resources.

## Exams

If you live over 50 miles away from a WSU testing facility you need to arrange a proctor for yourself (unless you want to drive really far!). For more information go to the following link: <http://departments.weber.edu/ce/distancelearning/testing.aspx>

## Learning Outcomes

Upon successful completion of this course, the student shall be able to:

- Summarize OOP and its usefulness in today's applications and work environments.
- Compare Java to other programming languages
- Research and evaluate relevant job listings
- Analyze client requirements
- Evaluate problem solving approaches and develop algorithms
- Write pseudocode
- Compare selection structures
- Compare and contrast looping structures
- Manipulate data structures
- Develop effective structured programs
- Develop detailed test scenarios for software programs

## Allocated Time

You should anticipate spending two to three hours of study per week for each credit hour of a university course. Computer and programming classes typically require time in the upper range.

## Cheating

Students are expected to maintain academic ethics and integrity in regards to performing their own work. The WSU Student Code states clarifies cheating.

- a. Cheating, which includes but is not limited to:
  - i. Copying from another student's test paper;
  - ii. Using materials during a test not authorized by the person giving the test;
  - iii. Collaborating with any other person during a test without authority;
  - iv. Knowingly obtaining, using, buying, selling, transporting, or soliciting in whole or in part the contents of any test, without authorization of the appropriate official;
  - v. Bribing any other person to obtain any test;
  - vi. Soliciting or receiving unauthorized information about any test;
  - vii. Substituting for another student or permitting any other person to substitute for oneself to take a test.

- b. Plagiarism, which is the unacknowledged (uncited) use of any other person or group's ideas or work. This includes purchased or borrowed papers;
- c. Collusion, which is the unauthorized collaboration with another person in preparing work offered for credit;
- d. Falsification, which is the intentional and unauthorized altering or inventing of any information or citation in an academic exercise, activity, or record-keeping process;
- e. Giving, selling or receiving unauthorized course or test information;
- f. Using any unauthorized resource or aid in the preparation or completion of any course work, exercise or activity;
- g. Infringing on the copyright law of the United States which prohibits the making of reproductions of copyrighted material except under certain specified conditions;

### **CS Department policy**

CS Department policy dictates that any verifiable evidence of student academic cheating, as defined and determined by the instructor, will result in: 1) an automatic failing grade for the class and 2) a report to the Dean of Students that will include the student's name and a description of the student's dishonest conduct.

Instructor Note: The most common form of cheating in programming courses is to “borrow” code from the Internet or copy code from a fellow student. To submit work that you did not create is cheating and will result in failure of the course. No matter how desperate the situation seems, a 0 on an assignment is better than an E for the course. Please do not cheat.

### **“I really, really need to get a C” policy**

The most effective method for obtaining a C or above in this class is to submit assignments when they are due and to stay current with course topics. The curriculum is carefully designed to fit the number of course weeks. In order to uphold academic rigor and integrity, student grades must be based on the degree to which the course requirements listed in the syllabus are fulfilled. Extra credit assignments are not allowed. If you approach me anytime during the term claiming that special allowance should be made because you need a C to move forward in the program, graduate, receive financial aid, etc., I will decline your request and refer you to this clearly worded policy.

## **Other Important Information**

### **Emergency campus closure**

In the event of an extended campus closure, I will continue to provide instruction by utilizing Canvas, the online course system. I will expect you to log in to the system on a regular basis to keep up with coursework. Assignments will be provided through the online system with clear due dates and expectations. Discussions will be made available to allow you to interact with other students and me about course material. I will check my Weber email on a daily basis should you need to communicate with me personally. It is imperative that I am able to contact you and that I have accurate contact info on you. You are responsible for checking your Weber e-mail or for having Weber messages forwarded to accounts you do check.

## Accommodations for disabilities

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 221 of the Student Services Center here at the Davis Campus. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary. You can also call 801-395-3524 or visit <http://www.weber.edu/ssd> for more details.

## Grading

The final grade will be given based on points accumulated through exams and labs. Standard grading will apply:

94-100 A	80-83 B-	67-69 D+
90-93 A-	77-79 C+	64-66 D
87-89 B+	74-76 C	60-63 D-
84-86 B	70-73 C-	below 60 E

## Due Dates

The official due date for every assignment is what is shown on Canvas. If Canvas shows that an assignment is due at 10am for a particular date for a particular assignment, then that is when it is due. If you feel that what is shown on Canvas is wrong, then please contact me immediately. If I announced in class a particular due date and time but Canvas shows another due date and time, then Canvas is right and I am wrong. I find this helps students because Canvas is always available and I am not.

## Late policy

I am extremely nice and flexible when people ask if they can turn in assignments early. Go for it! Turn everything in early!!

I do not accept late work unless you have a *very* good reason. If you had an extenuating situation that required that you turn in your assignment late then you must talk to me in person about the situation.

## Assignments and Exams

There will be approximately 1 assignment. There will be approximately 12 deliverables, but in the end, you will be building a single compiler. The assignment will be 70% of your grade.

In addition, there will be 2 exams that will be 11% of your grade each. **Exams can only be taken on the days given unless arrangements are made to take them ahead of time.**

You will give an in-class presentation on a compiler research paper – 8% of your grade.