



This syllabus includes adjustments per WVU's COVID-19 response (see **redacted** portions for original version).

OVERVIEW

The instructor is **Mr. Reaser**, M.S. C.S, Teaching Instructor for LCSEE. You can contact him by email at ron.reaser@mail.wvu.edu, by Slack chat at reaser.slack.com, or as listed on his website at reaser.org. His office is **AER 251**. You can schedule an office or online meeting at calendly.com/reaser or meet by walk-in as available in his office or campus common areas.

The **lecture section 1** has CRN 10501 and meets TR 11:00 am to 12:15 pm in AER 135.

The following **learning outcomes** for the course are met by lectures and assessments during the semester. The **calendar** provided with this syllabus on [eCampus](https://ecampus.wvu.edu) details the lecture and assessment schedule to meet these outcomes.

Upon successful completion of this course (with around 30 days of spring lecture), students will be able to...

1. Discuss **language evaluation** criteria and programming **language paradigms** (1 day).
2. Design and interpret **context-free grammars** using **Backus-Naur form**, **extended BNF**, and **attribute grammars** (3 days).
3. Employ **syntax derivations**, **operational semantics**, **denotational semantics**, and **axiomatic semantics** to evaluate the forms and meanings of sentences in programming languages (3 days).
4. Sketch **finite-state automata**, construct **regular expressions**, and design and implement lexical analyzers (**lexers**) and recursive descent **parsers** in code to recognize the syntax and semantics of context-free languages (5 days).
5. Compare and contrast different implementations of common **language features** including declarations, expressions, statements, assignments, data types, branching structures, and repetition structures (6 days).
6. Distinguish the designs and behavior of **subprograms** (3 days).
7. Distinguish the imperative and declarative **programming paradigms**, including **functional** languages and **logical** languages, and translate program source code among them (6 days).
8. Explain **concurrency** in development using language features such as semaphores and mutexes (3 days).
9. Appraise the most suitable languages, techniques, paradigms, algorithms, and features for completing practical tasks (cumulative).

The **recommended** text is *Concepts of Programming Languages* 12th Edition by Robert Sebesta (ISBN 9780135102251) for out-of-class reading and study. The 9th, 10th, and 11th editions are acceptable.

All **software and accounts** for the course are free for use on personal computers or are available in campus labs. Not having a usable computer, correct software configuration, reliable internet connection, or access to the labs do not excuse you from course requirements. Other software requirements are announced as needed and the resources are posted in eCampus.

GRADING

The first table shows the **assessments** you are graded on and the points each is worth. The second table shows the minimum total points to earn for a given **final grade**. Opportunities for **bonus points** are announced during the semester. You are capped at 50 cumulative bonus points.

There are 8 **quizzes** given. Each quiz is weighted equally out of 400 points. Make-ups and extensions are at the instructor's discretion. If you miss any quizzes due to excused absences only, the rest of your quiz grades are prorated equally out of 400 points.

There are 12 **quizzes** given. For each, the date may be **unannounced**, and

you earn up to 50 points based on your performance, or 0 points if you miss it for any reason. Your 2 lowest quiz grades are automatically **dropped** from your final grade. The 10 remaining quiz grades total 500 points. If you miss 3 or more quizzes due to documented excusable absences, you may be given make-ups for your 3rd and subsequent missed quizzes only, because your 1st and 2nd can be dropped.

The **lexer**, **parser**, and **surveys** are completed by **teams of three to five members** assembled at-will. The lexer and parser are components of one implementation, the surveys are separate assessments including documentation and implementation, and each is assessed by electronic submission. The instructor releases a specification for each team assessment including its due date and grading rubric. Your team members are all given the same grade for a particular team assessment if they all contributed equitably. Otherwise, the instructor has the discretion to adjust individual member grades, reorganize members among different teams, or eject members who are not contributing equitably, even retroactively. You can't submit team assessments for a grade unless you belong to a team or the instructor grants you special permission. Your team can submit **late work** within 24 hours free of penalty only with permission from the instructor.

There are **no make-ups or extensions** on any missed or late work except as permitted.

Assessment	Points	Final Grade	Points
Quizzes (10 8)	500 400	A+ Exemplary	1000
Lexer & Parser (100 each, 150)	200 250	A Very Good	900
Surveys (3 x 100 each 125, 125, 100)	300 350	B Good	800
Bonus	50	C Mediocre	700
Total	1050	D Unsatisfactory	600
		F Failing	0

Your **grades are posted in eCampus** in a timely fashion. Students interested in approximating or predicting their final grades are expected to perform their own calculations. Graded out-of-class assessments and hand-written quizzes are returned as appropriate in a timely fashion, but fill-in-the-bubble quizzes may not be returned due to logistical constraints.

COURSE POLICIES

Regular **attendance** is important but is not required. You are responsible for any work you miss due to absence.

Your **deliverables** must be submitted in the expected formats by the given due dates, and any late work may be rejected without a grade except when a policy indicates otherwise. You should keep secure copies of your work in case of data loss.

Ensure that your **conduct** in this course is appropriate. Be attentive to the instructor and work only on assigned material. Do not arrive late or leave early without notice. Do not converse disruptively. Treat all staff and students in a courteous and professional manner. Do not harass or be disruptive to the common morale. Do not vandalize or compromise course resources or technology. Do not foster a hostile or distracting environment. Violators are subject to similar sanctions as those for academic fraud.

Studies show that students who use **electronic devices** during lectures and even those students who sit near them do not learn or perform as well as students who take handwritten notes free of such distractions. Therefore, electronic devices are prohibited in lecture sessions except for accessibility accommodations or by special permission from the instructor. Laptops, tablets, and hybrid devices are allowed in lab sessions only for course work. Phones and wearable devices must be silenced.

UNIVERSITY POLICIES

Under the Family Educational Rights and Privacy Act of 1974, students have the **right to privacy** of their academic information. Without a waiver on file with the instructor or the registrar, no such information can be released to parents or third parties.

To receive **accessibility accommodations** from the instructor, the Office of Accessibility Services must officially authorize and notify the instructor of them, and you must allow 7 days of notice for the instructor to implement them.

West Virginia University and the instructor are committed to **social justice** and intend to foster a quality learning environment based upon open communication, mutual respect, and non-discrimination. Discrimination on the basis of race, color, ethnicity, nationality, sex, sexual orientation, gender, gender identity, age, disability, veteran status, or religion are prohibited.

ACADEMIC INTEGRITY POLICY

You must exemplify **academic integrity** in your work. The following acts of **academic fraud** violate this integrity:

- Working with another person without permission (you may only work with your team on team assessments).
- Enabling another person to access your work, with or without your knowledge or intent, or vice versa.
- Authoring or submitting work for another person, with or without compensation, or vice versa.
- Reusing work from another semester, course, or section without permission.
- Distributing your graded assessment to another person, or possessing a graded assessment from another person.
- Misrepresenting your identity, the authorship of your work, or your activities in the course.
- Plagiarism, which is using the work of another person without proper attribution.

If you commit an act of fraud, you are notified by email, the act is reported to the university by mandatory policy, and the instructor applies one or more of the following **academic fraud sanctions** based on the severity of the fraud:

- Your fraudulent work is assigned a grade of F (0 points).
- Your final grade for the course is reduced by up to 1 letter (up to 100 points).
- You are immediately assigned a final grade of F or unforgiveable F for the course.
- You are immediately and permanently expelled from the course.

The instructor may audit any work at any time to confirm its integrity. If you believe you or another person has committed an act of academic fraud, contact the instructor immediately.