



DevOps

COMP-4420

Spring 2025 Section E01 3 Credits 01/11/2025 to 05/13/2025 Modified 01/10/2025

Description

This course provides an introduction to the principles of DevOps and the DevOps tools that enable the optimization of an organization's development workflow. Topics include DevOps concepts, build automation, provisioning, monitoring, and deployment, among others.

Requisites

Prerequisites:

COMP 3400 or CS 3280

Corequisites:

Contact Information

Dr. Mike Orsega

Email: morsega@westga.edu

Office Hours:

(All times Eastern)

Monday	8:45-10:45 (MS Teams Chat)
Tuesday	8:45-10:45
Wednesday	8:45-10:45 (MS Teams Chat)
Thursday	8:45-10:45
and by appointment	

Email Information:

One thing to keep in mind, when asking questions it is to your benefit to include as much detail as you possibly can. Remember, it may be 12, or even 24 hours before someone reads your email. I'm always disappointed to respond to a student with something like, "I don't really understand what you're asking here. Could you please provide me with more details so I can better help". Often times you are best to try to include at least:

- Your name (I know this sounds silly, but if I just see the email address, it might be tough to know who belongs to the email address lovesToCode@gmail.com)
- The class number. Yes, I appreciate this sounds silly too, but realize that there are multiple people fielding your emails, just include this in the Subject Line to better help us
- Which chapter / page / exercise you are working on. The more specific, the easier it'll be for us to know exactly what's going on
- What you are attempting to get the computer to do
- Any input you are typing in as the user
- What you are expecting to see the computer do in response
- What the computer is actually doing
- Any specific error messages you are receiving (just saying that "I got a error box" doesn't help too much)
- Last, and probably most important, is to be sure to upload the work you have so far to the dropbox in Moodle. I appreciate that you may know exactly which line is causing the problem. However, it makes our lives so much easier to use the computer to troubleshoot on our end. Besides, sometimes errors in one line of code may not show until later in the program

Meeting Times

100% Online - no synchronous component

Materials

A number of chapters from the textbooks listed here will be assigned to reinforce and expand on the concepts introduced in the lectures. You are not required to purchase the textbooks. All of them are available via the O'Reilly Library - <https://www.oreilly.com/library/view/temporary-access/>

- "Introduction to AGILE Methods" Sondra Ashmore and Kristin Runyan

Outcomes

Upon completing the course, students will be able to:

- CO-01: Analyze the software development culture and practices of an organization and develop a plan to increase effectiveness using current DevOps tools and practices.
- CO-02: Implement a build automation pipeline.
- CO-03: Provision and deploy a distributed application using automation tools.

✓ Evaluation

Final grades will be calculated as a weighted average according to the following:

Activities	10%
Labs	20%
Exams	60%

Grading Scale

A \geq 90%

B \geq 80%

C \geq 70%

D \geq 60%

F < 60%

☰ Assignments

NOTE: The nature of CS is that the material builds upon itself. Therefore you are responsible for all practices/concepts after they are introduced. For example, we teach commenting early but expect you to write comments from there on, regardless of whether the directions explicitly ask for them or not.

Activities:

Activities will allow you to apply and extend concepts and techniques covered in class.

Projects:

The Projects let you apply what you've learned in lecture and in-class activities exercises.

- Must be completed individually unless stated otherwise.
- Advice and guidance will be available from the instructor.
- Don't wait until the last minute: **no help is available on the day an assignment is due.**

Exams:

Exams cover the fundamentals of the material covered. They test your ability to:

- Define terms and describe concepts.
- Apply techniques covered in class.

📅 Schedule

The fully detailed schedule can be found on the course site on Moodle. Simply log in to Moodle and choose the tile associated with this course to gain access.

When	Topic	Notes
Exam	During the semester	The fully detailed schedule can be found on the course site on Moodle. Simply log in to Moodle and choose the tile associated with this course to gain access.

* Course Policies and Resources

Late Policy:

No late work will be accepted. Also, because all work will be submitted via Moodle, the due date/time is determined by the server **NOT** your machine. If you are even 1 second late, the links will turn off and you won't be able to submit your work. You are strongly encouraged to submit early and often.

Student Responsibilities:

By signing up for this online course, you are taking a big chunk of the responsibility for learning this material into your own hands. The consequences of this include (but aren't limited to):

- Be prepared to devote up to 20 hours per week for this course
- Reading all information presented. This includes not only the textbook, but the content in Moodle and email messages.
- Be aware of due dates. Late work will not be accepted.
- Keep up and do not wait until the last minute to complete the work
- Actively reading and working through the materials provided in the course. If you get stuck on your lab, probably the first question you'll be asked is, "Have you worked through the material from Moodle?"
- Taking the initiative for seeking help. Be it through email, Office Hours, or the discussions forums. Please realize that there's no way I can look in your eyes and tell if you are getting something or not (we very well may never see each other in person!)

My assumption is that you are all busy people. You have jobs, families, friends and attempt to lead a normal life outside of school. With that in mind, you will still be expected to meet the same standards for this course and to master the material.

Generative Artificial Intelligence Course Policy

Generative Artificial Intelligence (Gen AI) *is not allowed in any coursework.*

In this course, the use of Gen AI is not allowed; all coursework must be original and created for this course. Use of Gen AI will be treated as plagiarism. Any violations of this guideline will be subject to the academic and disciplinary policies listed in the UWG Honor Code (see: [Student Handbook](https://uwg.policystat.com/policy/14638864/latest) (<https://uwg.policystat.com/policy/14638864/latest>))

College/School Policies

The College of Computing, Mathematics, and Sciences (CMCS) offers transformative educational experiences that engage students in the latest research and technology.

Our students participate in relevant, real world research, projects, and internships in the lab, the field, and industry. They make interdisciplinary connections with mentors in community, corporations, government, and alumni partners to explore innovations in science, computing, and mathematics.

Students are encouraged to practice the following Big Six college experiences to be successful in CMCS coursework and degree programs:

(A) Connect with professors, staff, coaches, etc. who care about you as a person:

1. Connect with a professor(s) who makes you excited to learn.
2. Connect with a mentor(s) who cares about you as a person.
3. Connect with a mentor(s) who pushes you to reach your goals.

(B) Participate in experiential learning opportunities:

1. Complete a long-term project such as a capstone project.
2. Participate in a high-impact practice such as undergraduate research or an internship.
3. Get involved in extracurricular activities and groups.

Institutional Policies

Academic Support

UWG is committed to student success, and the following resources will help you be more successful in your classes.

Center for Academic Success: The [Center for Academic Success](http://www.westga.edu/cas/) (<http://www.westga.edu/cas/>) provides tutoring, academic coaching, and supplemental instruction to help all undergraduate students succeed academically. For more information, contact them: 678-839-6280 or cas@westga.edu.

University Writing Center: The [University Writing Center](https://www.westga.edu/writing/) (<https://www.westga.edu/writing/>) assists students with the writing process. For more information, contact them: 678-839-6513 or writing@westga.edu.

Accessibility Services: Students with a documented need/accommodation may work with UWG Accessibility and Testing Services to receive essential services specific to their needs. All accommodations are based on documentation and relevant statutes and regulations. If a student needs accommodations in a course, or if the student needs to make special arrangements in case the building must be evacuated, the student should notify their instructor and provide a copy of their Student Accommodations Report (SAR), which is available only from Accessibility and Testing Services. Faculty cannot offer accommodations without receipt of the SAR, and retroactive accommodations are not permitted. For more information, please contact [Accessibility and Testing Services \(https://www.westga.edu/student-services/accessibility-testing/index.php\)](https://www.westga.edu/student-services/accessibility-testing/index.php).

Online Course Content

UWG takes students' privacy concerns seriously: technology-enhanced and partially and fully online courses use sites and entities beyond UWG and students have the right to know the privacy policies of these entities. For help with your online classes, additional online tutoring and other student success services, information on [privacy and accessibility \(https://uwgonline.service-now.com/kb?sys_kb_id=47b0ef89c3c58210ab7303bdc00131bc&id=kb_article_view&sysparm_rank=1&sysparm_tsg_ueryId=1ef80ce3c3e982507db3b2459901318a\)](https://uwgonline.service-now.com/kb?sys_kb_id=47b0ef89c3c58210ab7303bdc00131bc&id=kb_article_view&sysparm_rank=1&sysparm_tsg_ueryId=1ef80ce3c3e982507db3b2459901318a), and technology requirements, visit this [UWG Online \(https://uwgonline.service-now.com/kb/\)](https://uwgonline.service-now.com/kb/) Help site.

UWG's online virtual tutoring service is Tutor.com. Tutor.com provides 24/7, on-demand, 1-to-1 tutoring and homework help in more than 250 subjects. The expert tutors at Tutor.com can help students work through tough homework problems, improve their writing skills, study for a test, review difficult concepts, and so much more! Tutor.com can be accessed in CourseDen under the Resources dropdown menu and is available to all UWG students, regardless of course modality. More information can be found on UWG Online's Tutor.com: [Tutoring Service Knowledge Base article \(https://www.google.com/url?q=https://uwgonline.service-now.com/kb/?id%3Dkb_article_view%26sysparm_article%3DKB0010788&sa=D&source=docs&ust=1689091469862762&usg=AOvVaw2vbm-Y9CAGpzHoFZpHnqPF\)](https://www.google.com/url?q=https://uwgonline.service-now.com/kb/?id%3Dkb_article_view%26sysparm_article%3DKB0010788&sa=D&source=docs&ust=1689091469862762&usg=AOvVaw2vbm-Y9CAGpzHoFZpHnqPF).

Students enrolled in online courses can find answers to many of their questions in the [Online/Off-Campus Student Guide \(http://uwgonline.westga.edu/online-student-guide.php\)](http://uwgonline.westga.edu/online-student-guide.php).

Honor Code

At the University of West Georgia, we believe that academic and personal integrity are based upon honesty, trust, fairness, respect, and responsibility. Students at UWG assume responsibility for upholding the Honor Code. UWG students pledge to refrain from engaging in acts that do not maintain academic and personal integrity. These include, but are not limited to, plagiarism*, cheating*, fabrications*, aid of academic dishonesty, lying, bribery or threats, and stealing. When a student chooses to enroll at the University of West Georgia students pledge the following:

Having read the honor code of UWG, I understand and accept my responsibility to uphold the values and beliefs described, and to conduct myself in a manner that will reflect the values of the institution in such a way as to respect the rights of all UWG community members. As a UWG student, I will

represent myself truthfully and complete all academic assignments honestly.

I understand that if I violate this code, I will accept the penalties imposed, should I be found responsible for violations through the processes due to me as a University community member. These penalties may include expulsion from the University. I also recognize that my responsibility includes willingness to confront members of the University community, if I feel there has been a violation of the Honor Code.

For more information on the University of West Georgia Honor Code, please visit the [Office of Community Standards \(https://www.westga.edu/administration/vpsa/ocs/index.php\)](https://www.westga.edu/administration/vpsa/ocs/index.php) site.

UWG Email Policy

University of West Georgia students are provided a MyUWG e-mail account. The University considers this account to be an official means of communication between the University and the student. The purpose of the official use of the student e-mail account is to provide an effective means of communicating important university related information to UWG students in a timely manner. It is the student's responsibility to check their email.

Mental Health Support

If you or another student find that you are experiencing a mental health issue, free confidential services are available on campus in the [Counseling Center \(https://www.westga.edu/student-services/counseling/\)](https://www.westga.edu/student-services/counseling/). Students who have experienced sexual or domestic violence may receive confidential medical and advocacy services with the Patient Advocates in [Health Services \(https://www.westga.edu/student-services/health/\)](https://www.westga.edu/student-services/health/). To report a concern anonymously, please go to [UWGcares \(https://www.westga.edu/uwgcares/\)](https://www.westga.edu/uwgcares/).

[Online counseling \(https://www.westga.edu/student-services/counseling/index.php\)](https://www.westga.edu/student-services/counseling/index.php) is also available for online students.

ELL Resources

If you are a student having difficulty with English language skills, and / or U.S. culture is not your home culture, specialized resources are available to help you succeed. Please visit the [E.L.L. resource page \(https://www.westga.edu/isap/ell-resources.php\)](https://www.westga.edu/isap/ell-resources.php) for more information.

Credit Hour Policy

The University of West Georgia grants one semester hour of credit for work equivalent to a minimum of one hour (50 minutes) of in-class or other direct faculty instruction AND two hours of student work outside of class per week for approximately fifteen weeks. For each course, the course syllabus will document the amount of in-class (or other direct faculty instruction) and out-of-class work required to earn the credit hour(s) assigned to the course. Out-of-class work will include all forms of credit-bearing activity, including but not limited to assignments, readings, observations, and musical practice. Where available, the university grants academic credit for students who verify via competency-based testing, that they have accomplished the learning outcomes associated with a course that would normally meet the requirements outlined above (e.g. AP credit, CLEP, and departmental exams).

