GEORGIA COLLEGE & STATE UNIVERSITY COURSE SYLLABUS

Generative AI & Full Stack Development

Semester:	Spring	**Year:**	2026
Course Title:	Generative AI & Full Stack Development	**Course #:**	CBIS 4210/5210
Instructor:	Dr. Bryan Marshall	**Office:**	ATK 305
E-Mail:	bryan.marshall@gcsu.edu		
Phone:	478-445-2137		
Class Time:	TR 9:30 – 10:45 am		
Classroom:	ATK 308		

Premium Support Hours TR 8:00 am – 9:30 am
TR 11:45 am – 1:00 pm

Catalog Description

Prerequisite: CBIS 3210. The Generative AI Full Stack Development course is designed to provide students with an in-depth understanding and practical skills in leveraging Generative Artificial Intelligence for full-stack development. This course explores Fundamental programming, generative AI applications, and technological infrastructure, offering students a unique perspective on the fusion of AI innovation and system development.

Course Outcomes

Students should be able to:

1. apply programming to everyday life to solve problems.
2. see the value in learning programming and how it can help business.
3. approach a problem systematically, breaking down the required parts and building a working application.
4. become more confident in their programming skills and what programs can do.
5. understand basic key terms like variables, constants, functions, and loops.

Grading

A	Complete Module 7
B	Complete Module 6
C	Complete Module 5
D	Complete Module 4
F	Did Not Complete Module 4

Desire2Learn

The class assignments/grades are managed through D2L.

ALL OF YOUR ASSIGNMENTS WILL BE UPLOADED AND GRADED ON D2L!!!

Common Syllabus Requirements

All common statements for this syllabus are found at
http://www.gcsu.edu/business/docs/GCRequiredSyllabusStatements.docx

This is just a tentative course schedule – deviations may be necessary.

Date	Topic Covered (Chapters)
1/13 1/15 1/20 1/22	**Module 1: Python Essentials** • Lesson 1 – Your First GitHub Repository • Lesson 2 – Setting Up Your Development Environment • Lesson 3 – Building Your Demo 1 Site • Lesson 4 – Testing and Submitting Your Demo **Assignments** • Demo 1 – Flask Customization • Dup 1 – Independent Flask App • Theory 1 – Video + Reflection
1/27 1/29 2/3 2/5	**Module 2: Flask Foundations** • Lesson 1 – Creating Your Demo 2 Repository • Lesson 2 – Building Your Pages with Routes and Jinja • Lesson 3 – Styling Your Site with Bootstrap • Lesson 4 – Deploying to Heroku and Submitting **Assignments** • Demo 2 – Styled Flask Application • Dup 2 – Custom Flask Website • Theory 2 – Video + Reflection
2/10 2/12 2/17 2/19	**Module 3: Database Integration** • Lesson 1 – JawsDB Setup and MySQL Workbench Connection • Lesson 2 – Environment Setup and Database Credentials • Lesson 3 – Running the App and Schema Deployment • Lesson 4 – Custom Blueprint and Production Deployment **Assignments** • Demo 3 – CRUD Application • Dup 3 – Custom Database Application • Theory 3 – Database Concepts Video + Reflection
2/24 2/26 3/3 3/5	**Module 4: Multi-Table Relationships** • Lesson 1 – Project Setup and Heroku Configuration • Lesson 2 – Related Table Schema Design • Lesson 3 – Blueprints with JOIN Queries and Dropdowns • Lesson 4 – Testing CASCADE Operations and Deployment **Assignments** • Demo 4 – Related Tables Application • Dup 4 – Multi-Table Application • Theory 4 – Video + Reflection

3/10 3/12 3/24 3/26	**Module 5: Database Planning** • Lesson 1 – Project Setup and Environment Configuration • Lesson 2 – Database Schema and Blueprint Development • Lesson 3 – Testing, Debugging, and Authentication • Lesson 4 – Dashboard and UI Refinement **Assignments** • Demo 5 – Authentication System • Dup 5 – Secure Multi-Table App • Theory 5 – Video + Reflection
3/31 4/2 4/7 4/9	**Module 6: APIs and Libraries** • Lesson 1 – Stock Ticker Blueprint with API Integration • Lesson 2 – Weather Tracker Blueprint with API Integration • Lesson 3 – Movie Database Blueprint with OMDB API • Lesson 4 – AI Chatbot with Groq API **Assignments** • Demo 6 – Multi-API Dashboard • Dup 6 – API-Powered App • Theory 6 – Video + Reflection
4/14 4/16 4/21 4/23 4/28 4/30 5/5	**Module 7: Final Project** • Phase I – Proposal • Phase II – Basic Skeleton and Database All modules due by Friday May 8, 2026.

Required Textbooks

Students are required to subscribe to **Claude Pro** (Anthropic) $20/month, by the second week of classes and maintain the subscription throughout the semester for coding assistance and development tasks.

Attendance Policy

Regular attendance is expected and essential for success in this course. The following policy will be strictly enforced:

Allowable Absences

- Students are permitted three (3) absences without penalty during the semester.
- Students may be excused from Thursday classes if they have achieved 100% completion of the current module prior to that class session.

Attendance Penalties

- Beginning with the fourth (4th) absence, students will receive a grade reduction for each additional absence.
- Excused absences for Thursday classes (with 100% module completion) do not count toward the three-absence limit.

Student Responsibility

- It is the student's responsibility to track their attendance and module completion status.
- Students must notify the instructor in advance if claiming the Thursday exemption based on module completion.