# AI ASSISTED PROGRAMMING

# **MODULE INTRODUCTION**

AIAP Module | Atlantic Technological University

## WELCOME TO THE FUTURE

This module is your launchpad into the next generation of software development. We'll explore how to partner with AI to build better software, faster.

## IN THIS MODULE, YOU WILL:

- Master AI tools like GitHub Copilot.
- Boost your coding productivity and creativity.
- Learn to write and debug with AI assistance.

# **CONTACT INFORMATION**

For all module-related inquiries, please contact me via email.

# **COMMUNICATION**

Email: daniel.cregg@atu.ie

## **ENROL IN MODULE ON MOODLE**

#### **STEP-BY-STEP ENROLLMENT:**

- 1. Go to https://vlegalwaymayo.atu.ie/
- 2. Search for module 10720
- 3. Click on AI ASSISTED PROGRAMMING
- 1. Find your group (A, B, or C)
- 5. Click Enrol button
- 5. Enter the appropriate password:

Group A
group B
groupb
Group C

# groupc

## **MODULE STRUCTURE**



- 13 Weeks total
- This is Week 1
- No lab in Week 1
  - WEEKLY SCHEDULE
- 2 hour lecture per group
- 2 hours lab per group
- Check: timetables.atu.ie

#### MODULE LEARNING OUTCOMES

Upon completion of this module, you will be able to:

- 1. Identify and evaluate the capabilities of various AI powered coding tools, including code generation, completion, and debugging assistants
- 2. Integrate AI-based tools into a practical software development workflow, demonstrating their use in real-world coding scenarios
- 3. Critically analyse the benefits and limitations of AI coding assistance, considering code quality, over-reliance, and potential biases
- 4. Explore emerging trends in the field of AI-assisted programming

## **MODULE SYLLABUS**

You will find a **live syllabus** at the top of the module Moodle page.

### **KEY INFORMATION:**

- Detailed week-by-week syllabus breakdown
- Updated regularly throughout the module

# **ASSESSMENT OVERVIEW**

Week Due	Assessment Type	Grade Portion	
Week 7	MCQ1	30%	
Week 12	MCQ2	30%	
Week 13	Project	40%	

#### **ASSESSMENT DETAILS**



# **MCQ ASSESSMENTS**

- Sequential Multiple choice questions
- Based on previous lectures and labs
- **Study tip:** Use Google NotebookLM to generate practice questions

# **FINAL PROJECT**

- Application in language of your choice
- Use AI tools to assist development
- Must incorporate AI technology
- Follow detailed project brief

# **EFFORT & EXPECTATIONS**

5

Credit Module

100-125

**Hours Required** 

13

Weeks Duration

**Self-directed learning** will be the main source of learning in this module.

## **ESSENTIAL TOOLS & RESOURCES**

# **X** DEVELOPMENT TOOLS

- GitHub: Repository storage
- Codespaces: Free VM in the cloud
- GitHub Copilot: Al programming assistant
- CLI Tools: Command line interfaces

# **AI TOOLS**

- Code generation assistants
- Debugging companions
- Documentation generators
- Code completion tools

#### **ACTION ITEMS - TO DO**

- **®** BEFORE NEXT CLASS:
- Sign up for GitHub Student Developer Pack
- Free access to premium development tools
- Change your GitHub username to your actual name
- Makes collaboration and grading easier
- Enroll in the Moodle module
- Access all module materials and announcements
- Review the live syllabus
- Understand the weekly progression

## **LOOKING AHEAD**



# WHAT'S COMING NEXT

- Deep dive into Al-assisted programming concepts
- Hands-on experience with GitHub Copilot
- Practical coding sessions with AI tools
- Building real applications with AI assistance

Get ready to revolutionize how you write code with the power of AI!

# **QUESTIONS & DISCUSSION**

# **ANY QUESTIONS ABOUT:**

- Module structure and expectations?
- Assessment methods and timeline?
- Tools and resources needed?
- Enrollment or technical issues?

Remember: This module is about learning to work with AI, not being replaced by it!

# **THANK YOU!**

## **WELCOME TO AI-ASSISTED PROGRAMMING**

← Back to Module Index

→ Next Lecture: Introduction to Al-Assisted Programming

Speaker notes