

AI ASSISTED PROGRAMMING

MODULE INTRODUCTION

AIAP Module | Atlantic Technological University

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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.

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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**
4. Find your group (A, B, or C)
5. Click **Enrol button**
6. Enter the appropriate password:

Group A

groupa

Group B

groupb

Group C

groupc

MODULE STRUCTURE

DURATION

- **13 Weeks** total
- This is **Week 1**
- No lab in Week 1

17 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

11

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

DEVELOPMENT TOOLS

- **GitHub:** Repository storage
- **Codespaces:** Free VM in the cloud
- **GitHub Copilot:** AI 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

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LOOKING AHEAD



WHAT'S COMING NEXT

- Deep dive into AI-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!

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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: Java Program Structure and Basic Concepts](#)

Speaker notes