# 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.

# 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

## 📅 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

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# 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

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# 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

Speaker notes