College of Science, Engineering & Food Science

Computer Science

Module:

Computer Science students working on the project focused on foundational undergraduate modules.

Learning Outcomes:

Learning outcomes for these modules included:

- *Demonstrate an understanding of core programming constructs*
- *Write computer programs of moderate complexity*
- *Demonstrate an understanding of some of the principles of good program design.*

Current Assessment Design:

These modules are assessed through a combination of **summative** and **formative assessment**. A written examinations can account for 70% of the total grades, with the other 30% being made up of in-class tests.

Associated Risk of GenAI:

GenAI, such as ChatGPT, is highly proficient in producing code, when prompted adequately. The purpose of these foundational modules is to familiarise first year Computer Science students with the basics of programming in Python, a high-level general-purpose programming language. Python is used in numerous real-world applications and is currently the most popular programming language in the world. The use of GenAI to generate code will stunt a student's development. The student will not proficiently learn the language and will perform poorly when examined.

Mitigation:

This module is assessed through in-person examination, which naturally mitigates against the unethical use of GenAI.

Breakdown of Process:

ChatGPT was used to complete assessment tasks, as presented in the written examination. ChatGPT easily completed the assignment and would score reasonably well. It was previously thought that that AI tools such as ChatGPT were unable to compete with students in this regard but as evidenced through the answers produced, this is incorrect.

Due to ChatGPT easily completing the assignment to a high standard, the concern is that students will not build the necessary foundational knowledge of coding required to progress in their learning journey. By utilising this tool, it could be argued that students could theoretically pass assignments and the course appropriately learning programming skills.

Integration:

The integration of GenAI, particularly at an early stage in a Computer Science student's development, is vital. Students need to be made aware of the downsides of its use. While ChatGPT can write code well when prompted, it tends to answer in a very straightforward and basic manner which could lead to numerous problems as a student moves through their studies and into the professional realm.