UNC CHARLOTTE
College of Computing and Informatics
Department of Software and Information systems

ITIS 5101 | Foundations of Programming| 3 credits

Course Description:

ITIS 5101 is a breadth first course designed to take the participant from no experience in programming to having an understanding of how to produce object oriented software that is relevant to their domain knowledge. The learning outcomes are language agnostic and focus on making sure that the participant learns to think about problem solutions that are systematic and repeatable (algorithms), and translatable to efficient code.

Course Objectives:

Upon successful completion of this course, you shall be able to:

1. Analyze a set of problem specifications and produce an appropriate algorithm.
2. Choose appropriate data structures for a given problem/situation.
3. Translate an algorithm into object oriented code.
4. Write programs that recover gracefully from errors and exceptions.
5. Write and execute test cases.
6. Analyze the complexity (Big-O) of an algorithm or function.

Pre-requisite:
None

Course Structure:

 The class is a fully online, immersive experience. It contains short learning modules with assessment materials that assess and builds up participant understanding as they move through the content. These small modules are then used as the building blocks for larger projects that ensure participants understand how to apply the concepts learnt to meaningful projects. Participants will have the opportunity to review and give feedback to other participants in the course. This experience allows participants to analyze and reflect on different solutions to a problem. By the end of the course, participants should be comfortable approaching and solving problems using code.