

ICS3/4U Mid-year exam checklist

Note that the exam is only on Units A, B, C (ie. the material covered in Term 1). Anything from later units covered in Term 2 is not the responsibility of the student.

Unit A: Lectures 1-3, Assignment 1

- ☐ Impact of technology and computer science on human health (mental and physical)
- ☐ Ethical issues of technology and computer science (how they affect society, how they're integrated, benefits and drawbacks)
- ☐ Environmental impacts
- ☐ History of computer science (just what's in the notes!)
- ☐ The rise of python, the zen of python (just one or two parts, you don't have to know the whole thing – just a gist!)

Unit B: Lectures 4-13, Assignments 2-4

- ☐ Number systems (binary, decimal, hexadecimal)
- ☐ Memory storage (bytes, GB, TB, etc)
- ☐ Variable types
- ☐ List definitions and usage
- ☐ Loop definitions and usage
- ☐ If/elif/else statements
- ☐ Control flow
- ☐ Defining functions and using the main function

Unit C: Lectures 14 – 23, Assignments 5-7

- ☐ Type conversions (what works and what doesn't)
- ☐ Limits of finite data representation
- ☐ Unit testing (definition and usage)
- ☐ Integration testing (definition and usage)
- ☐ Regression testing (definition)
- ☐ Pre and post conditions
- ☐ Doc strings
- ☐ Recursive and iterative functions
- ☐ Dictionaries and their usage

Miscellaneous:

- ☐ AI in society (from in-class discussions on recent developments)
 - ☐ Tests for AI (how to define, tests passed)
 - ☐ Citizenship and awarding humanity
- ☐ Definition of a qubit, idea of quantum computing
- ☐ Steps for coding

Exam structure

The exam will be marked out of 60. It will consist of 10 multiple choice questions worth one point each based on logic (marked for Knowledge), 2 short answer questions worth 15 points each based on provided code snippets (marked for Knowledge, Application, and Communication), and 1 mid to long answer discussion question worth 20 points based on Unit A and related miscellaneous conversations (marked for Knowledge and Communication).

30 points (50%) -> Knowledge

20 points (33.33%) -> Communication

10 points (16.67%) -> Application

Note that you should carefully go through the checklists for Units A, B, C and make a shortlist of topics that you believe will be difficult for you to study for or you would like to discuss further in class. Submit this short-list via email by 11:59pm on Dec 3rd.
