122COM: Module information

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Overview

1 Module structure

2 Recap

Evaluation

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10 credit module. Full coursework evaluation

- Phase test 1 in Week 5 (20%)
- Phase test 2 in Week 11 (20%)
- ALL project (60%)
  - 122COM component of your ALL project.
  - Alternative project for retake students.
  - Alternative project for Jan starters.

Weekly topics

CS, COM, EH & GT

1. C++ intro
2. Algorithms
3. Searching
4. SQL
5. Phase test 1
6. C++ intermediate
7. Pointers
8. Data structures
9. Sorting
10. Testing
11. Phase test 2

ITB & MC

1. C++ intro
2. Algorithms
3. Searching
4. SQL
5. Phase test 1
6. Mini project $\frac{1}{2}$
7. Mini project $\frac{2}{2}$
8. Data structures
9. Sorting
10. Testing
11. Phase test 2

Order of topics may change.

Weekly structure

New topic introduced each week with lecture. Accompanied with practical coding exercises to be completed during the lab.

- Pre-lab work each week will be set (same as 121COM).
  - Not optional (same as 121COM).
- Material will be marked using traffic light system (same as 121COM).
  - Understanding green material required to pass module.
  - Understanding yellow material should produce good mark.
  - Red material is advanced, for students with previous coding experience or students looking to stretch themselves. It is not testable.

Languages

Assuming you have working knowledge of Python3.

C++14 introduced during the module

- Majority of students expected to work in C++.
- Tested on C++ syntax during phase tests.

BIT/ITB and Multimedia Computing students

- Expected to complete some C++ labs
- Will not be asked questions regarding C++ syntax during phase tests.
- Can be asked generalised questions re. differences C++ &. Python.

Intended Learning Outcomes

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1. Write software to solve a range of problems.
2. Implement and use simple searching and sorting algorithms.
3. Use libraries to extend the functionality of the base language.
4. Use basic design and testing strategies.

Contact time

The module runs in one semester over 11 weeks.

- 2 hours contact time a week as single lecture/lab block.
  - Students expected to spend additional 4 hours self study.
- Additional support available as part of programming support centre
  - `https://gitlab.com/coventry-university/programming-support-lab/wikis/home`

Reading

There is no required reading for this module.
However, the following resources can be recommended.

- Python
  - Learning Python, 5th Edition. Mark Lutz, OReilly.
  - Automate the Boring Stuff with Python, Al Sweigart. Free PDF version online.
  - The 121COM material and reading list.
- C++
  - C++ Programming In Easy Steps, 4th Edition. Mike McGrath.
  - Penguin programmer - An excellent beginners C++ guide. `http://www.penguinprogrammer.co.uk/c-beginners-tutorial/`.
  - Learncpp - A more advanced C++ guide that goes into greater depth. `http://www.learncpp.com/`

Advice - 121COM

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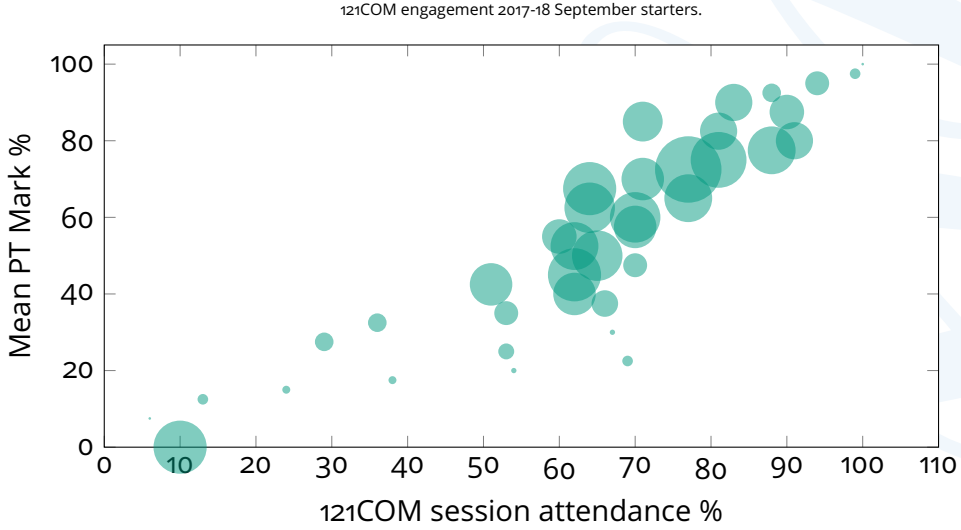
Expected to have a working understanding of Python for this module.
If didn't attend or do the 121COM work then need to catch up ASAP.



Advice - 122COM

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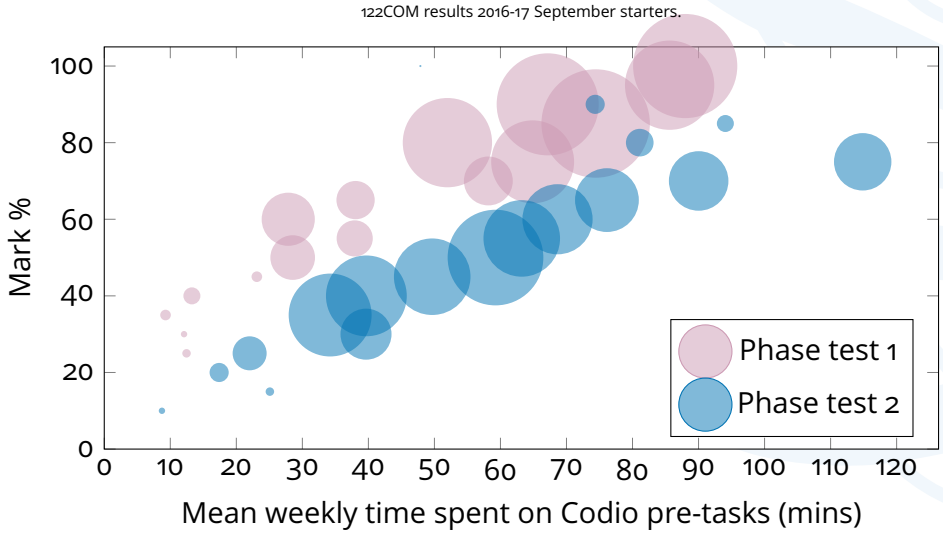
Do the work. Do **NOT** wait until the last week/s of term.



Advice - 122COM

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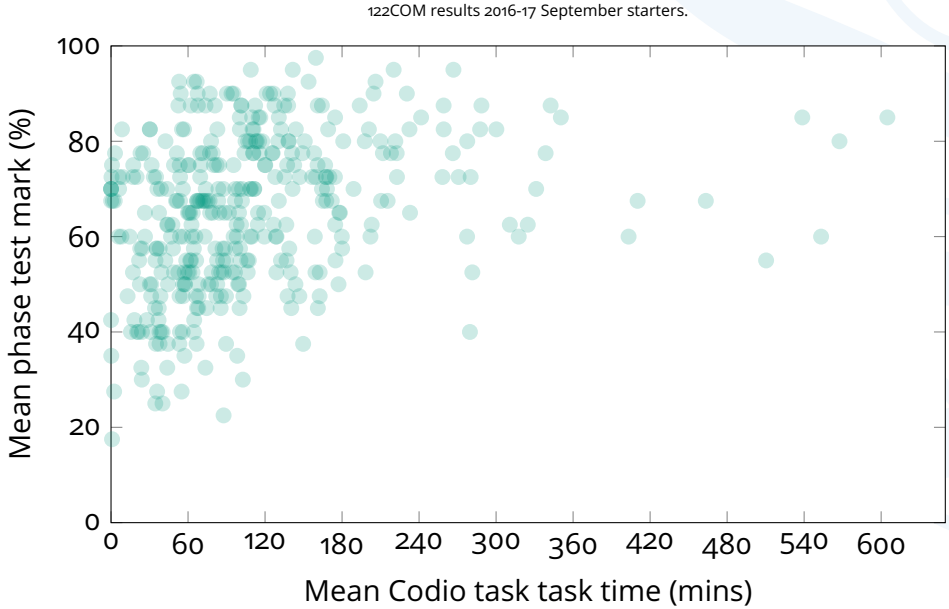
Last year no-one that did the work failed the phase tests.



Any Questions?