COVID RELATED ISSUES

Due to the uncertainties and restrictions caused by COVID limiting travel and access to the Imperial Campus in London, all lectures and tutorials will be delivered online, and lectures will be recorded.

LEARNING OUTCOMES OF PART II

On successful completion of Part II of this module, students should be able to:

• Translate high-level program fragments into assembler code
• Explain program behaviour by reading the binary representation of machine code
• Explain the effect that memory hierarchy has on a program's execution time
• Estimate the performance of a program on a given computer

ASSESSMENT

▪ 1 assessed coursework
▪ 5 tutorials

TEXTBOOK FOR PART II

Randal E. Bryant and David R. O'Hallaron, Computer Systems, a Programmer's Perspective (3$^{rd}$ Ed.), Pearson (2016). Chapter 3 and 6.

PART II SCHEDULE FOR SPRING TERM 2021 (page numbers refer to relevant material from the textbook)

| week(starting) | Tuesday | Friday | Contents |
|---|---|---|---|
| 6(15/2) | Lecture 1 | Lecture 1 + Ex1 | Module overview and Intro to Machine-level Programming (pp. 200 - 218) |
| 7(22/2) | Lecture 2 + Ex2 | Lecture 3 | Arithmetic, condition codes and control flow (pp.218 -274) |
| 8(1/03) | Lecture 4 + Ex3 | Lecture 4 | Stack and Procedures (pp.274 - 290) |
| 9(8/03) | Lecture 5 + Ex4 | Lecture 6 | Complex data types and memory hierarchy (pp.291 - 311) |
| 10(15/03) | Lecture 6 + Ex5 | Lecture 7 | Memory hierarchy and cache (pp. 615 - 663) |
| 11(22/03) | Lecture 7 + Ex6 | Ex7 | Cache and program performance and summary (pp.663 - 684) |

PLATFORMS TO BE USED

• Zoom instead of Teams; Teams will be used only in second hour on 16$^{th}$ February
• CATe: for tutorial, sample answers and coursework spec; every sample answer will be released 2 weeks after the tutorial is released
• Materials: all links to pdf lectures, panopto video links and other resources
• Piazza: to ask any question related to the module. As a rule, instructors will answer after any of you have tried to answer the question.
• Mentimeter: for asking any question related to slides or lectures and to use during tutorial hours.

LECTURES

Slides will be uploaded usually the weekend before and video lectures will be uploaded in panopto and linked in materials the same day after the lecture, once it is ready.

Usually, after every lecture, a 5 minutes video will be uploaded to resume the key points of the lecture, so if any of you have missed the lecture can watch the video and join us in the following lecture.

Extra material video may be uploaded called "bites".