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ADVANCED WEB TECHNOLOGIES SET09103 LECTURE 00 (WEEK 1)

MODULE OVERVIEW

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MODULE OVERVIEW

At the end of this section of the module you will be able to:

* Explain how the module works
* Explain what effort is expected from you
* Understand when the class meets
* Understand how the module will be assessed

OVERVIEW

- Class Meetings
- Assessment
- Collaboration
- Feedback
- Moodle
- Contact

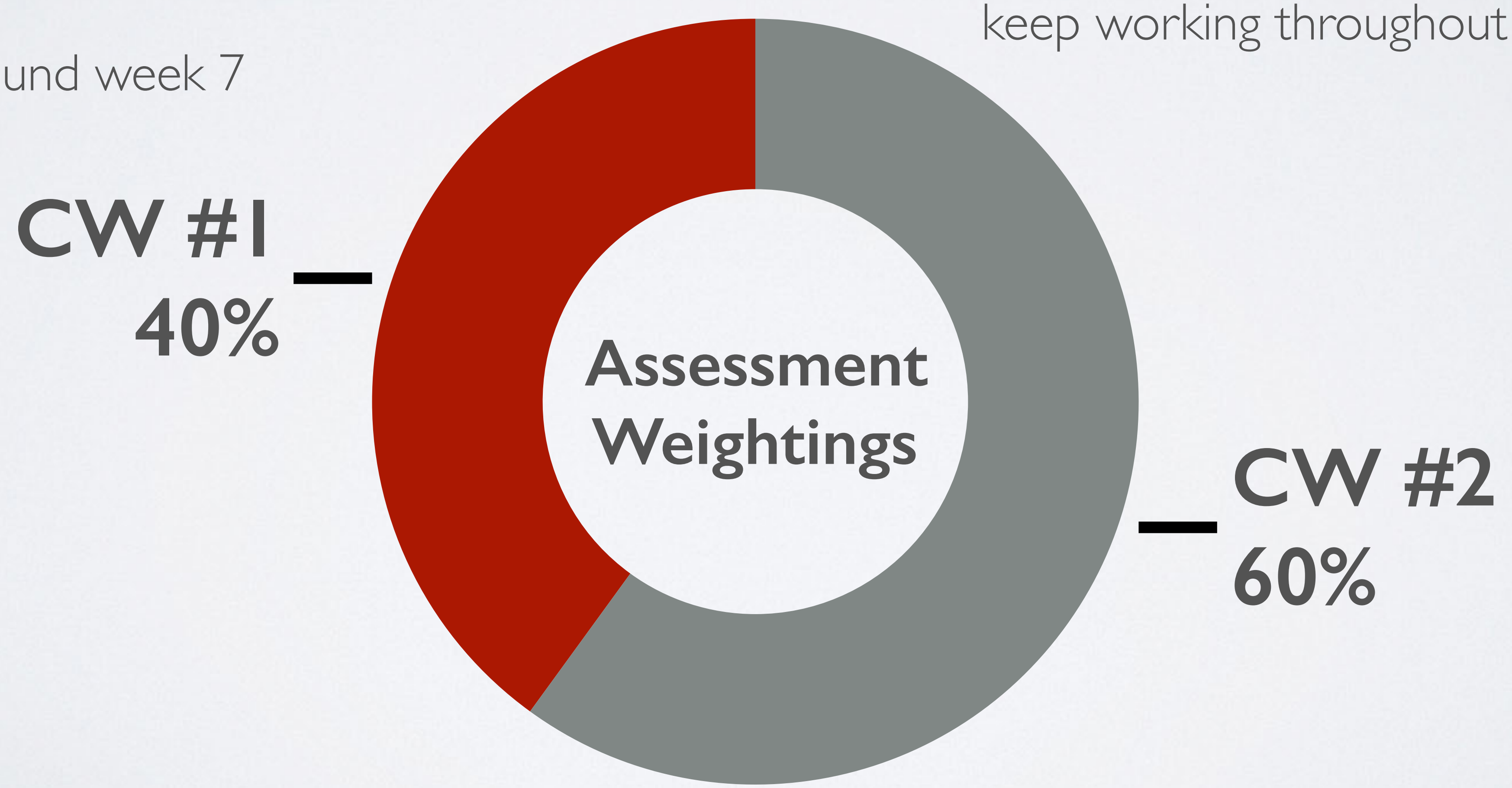
- Commitments
- Module Texts
- Goals
- Lecture Plan
- Lab Plan

CLASS MEETINGS

- All timetabled contact is on Thursdays
- **Lab (Thursday 9AM-11PM Kilby.01/02/03/04)**
    - If other students in the pods then tell me & I will move them.
    - Simon + Demonstrator(s) at all lab sessions
    - Lab sessions mostly programming exercises (from the workbook) -
        - Work through the exercises, then use them as the basis for your own self-directed learning.
        - Lab is before the lecture so there is an opportunity to raise your questions in class discussions
- **Lecture (Thursday 11AM -1PM, Merchiston A17)**
    - Mixture of lecture, class discussion, & peer learning activities
    - After the lab so: lab debrief/discussion then look at a new topic
    - *If you want me to shut up then you have to contribute. The more you get involved then the less time I have available to flap my lips*

ASSESSMENT

- Part#1 - **Initial Project Design:**
  - Report
  - Handed out around week 3
  - Due in around week 7
- Part#2 - **Project Implementation:**
  - Start around week 7
  - Due in around week 13
  - Demos during lab sessions that week & the following week
- **No Exam**
  - Means you need to get to grips with the practical work as soon as possible then keep working throughout the module....



COLLABORATION

- This module is not graded on a curve
  - How you perform doesn't affect anyone else's grades
  - Helping others helps you - we understand things that we can explain, show, or demonstrate to others - the best way to master material is to know it well enough to teach to others
  - So it is highly encouraged for your to discuss work & share ideas with the rest of the class
- You may work with others & can collaborate on ideas but should not share code
- If you do solve problems collaboratively then you should give credit to those who've helped you - your report is often a good place to do this.

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FEEDBACK

- You will get some written feedback after hand-ins alongside your provisional grade
- Feedback comes in many forms; just because it's not written down doesn't mean it's not feedback
- Verbal feedback is available through direct interaction (feedback can also happen both before and after hand-ins)
- We have lots of demonstrators this year so that teaching staff can provide continuous verbal feedback during labs - if you don't attend labs then you miss this opportunity
- Office hours will be made available after hand-in of the first part of the assignment for additional verbal feedback
- It's your responsibility to keep track of your interactions and make notes so that you can use your feedback constructively.

MOODLE

- All module materials will be archived in Moodle & on the module website: http://siwells.github.io/teaching_set09103/
- Code examples will be made available via a Git repository (pushed to Github):
  - https://github.com/siwells/teaching_set09103
- Most module communications with be either during timetabled events (i.e. at a lab or lecture) or via Moodle
  - So check your @napier email FREQUENTLY (i.e. at least once per day if not more)
  - Pushing the Moodle forums this year for discussion - if other students can benefit from your question then post it to the forums.

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CONTACT

- (1) Timetabled, (2) Electronically, (3) Physically
- Methods:
  - Module Coordinator: Simon Wells (Merchiston C37)
  - Email - s.wells@napier.ac.uk
  - Skype - si.wells
- Email me & organise a meeting so that I can dedicate time & attention to you.

COMMITMENTS

- At least 12 hours/week
- Attendance at Labs & Classes accounts for about 4 hours
- The remaining 8 hours comes from:
    - Background reading,
    - Practical work,
    - Directed study.

MODULE TEXTS

- No single set text
- Most cutting edge information is available online (books about web technologies usually out of date by the time (probably before) the tree is dead)
- Main *practical* Text: The Module Workbook
  - Download from Moodle (with src in the module Git repo)
  - Updated frequently so grab a new copy each week
  - Contains exercises, explanatory notes, pointers to further reading, exercises, &c.
- Frequent preparatory readings for each weeks topic

GOALS

- What do we expect to learn in this module?

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LECTURE PLAN

- 01. Intro, Overview, Learning Environment, What is web 1.0, web 2.0, web 3.0?
- 02. The HTTP Protocol
- 03. APIs, Web Services, & REST
- 04. Data Transports & Payload Formats (JSON, XML)
- 05. Frontends (Design for Hackers)
- 06. Architectures for the Web: "Web-scale", Scalable, Efficient, Dynamic
- 07. Web Security & Privacy
- 08. Semantic Web
- 09. Realtime Web
- 10. Dark web
- 11. Permanent Web
- 12. Coda: Review & Conclusions - Drawing together the themes & narrative; looking towards the future

LAB PLAN

- 01. Learning Environment #1: Linux, Vim, Git, SSH/SCP
- 02. Learning Environment #2: Python, Python-Flask, "Hello World"
- 03. Flask: Debug Mode, Errors, Routing, Static Files
- 04. Flask: Requests, Redirects, Responses
- 05. Flask: Templates (using Jinja 2)
- 06. Flask: Session, Message Flashing, Logging, Testing
- 07. Adding Style: Bootstrap + Python + Flask (+ CSS + Javascript)
- 08. APIs & JSON
- 09. Storing & Encrypting Data
- 10. Complete labs/project
- 11. Complete labs/project
- 12. Demos
- 13 Demos
- NB. Demos might extend into assessment weeks (14 & 15) if necessary

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QUESTIONS ???