

Further web-design

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Javascript

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Javascript appears as code in the head of an HTML document. For example, the following code appears in the head of the MAS115 course webpage.

```
div_toggle = function(id) {  
    var e = document.getElementById(id);  
    if (e && e.style.display == 'none') {  
        e.style.display = 'block';  
    } else {  
        e.style.display = 'none';  
    }  
}
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Again, there are Javascript tutorials and courses online.

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PHP is a scripting language, similar to Python, which runs on a webserver. It is used to create HTML pages by printing out (*echoing*) bits of HTML code.

For example, the following creates the footer on my module webpages.

```
function make_footer() {  
    echo '<div id="bottom_rule"></div>';  
    make_last_updated();  
    echo '</body></html>';  
}
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function make_footer() {
    echo '<div id="bottom_rule"></div>';
    make_last_updated();
    echo '</body></html>';
}

function make_last_updated() {
    $modified = last_modified();
    echo '<p class="footer">Last updated: ';
    echo $modified;
    echo '</p>';
}
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    echo '<p class="footer">Last updated: ';
    echo $modified;
    echo '</p>';
}

function last_modified() {
return date("j F Y",getlastmod($_SERVER['PHP_SELF']));
}
```

Where to learn more

There is a 10 credit Level 2 module called Scientific Computing and Simulation (MAS212).

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MAS212 has MAS115 as a prerequisite, and looks at ways of using Python to 'visualise and analyse numerical results, and then applies the knowledge to explore the physical behaviours of model equations'.

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MAS212 has MAS115 as a prerequisite, and looks at ways of using Python to 'visualise and analyse numerical results, and then applies the knowledge to explore the physical behaviours of model equations'.

If you have enjoyed learning Python, and want to know more about how applied mathematicians use it, then remember this course when picking next year's modules.

Other sources of information

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There are loads of sources of information on the web.

- <http://code.org> have links to online tutorials;
- *Coursera* run free online courses;
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There may be modules from other departments that you can take at Level 2, e.g. COM161, although you may need special permission and the timetables might clash.

Working in groups

Aristotle (384BC–322BC)

The whole is more than the sum of its parts.

Metaphysica

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The ability to work in a group is a valuable skill that will be useful for future employment

Group working: the benefits

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Another benefit is in the sharing of knowledge. Group members can learn from each other, and this can again lead to better overall results.

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Often, problems can be traced back to a communication breakdown.

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- Ask questions, seek clarification and encourage people to follow their ideas unless you think they're a big mistake.
- Don't express an opinion as a fact. (Instead, start with 'In my opinion...' or 'I think...'.)
- Criticise the idea, not the person. ('I'm not sure I agree with that' rather than 'You're wrong!'.)
- Make sure all decisions are communicated to everyone in the group, including those who are absent from a meeting.

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- Don't leave the responsibility of making decisions on the project entirely to others ("I did everything they asked me to do!").
- Be patient! Everybody's brain is different, and you will find some people easier to communicate with than others.

Meetings and planning

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You will enter reports of the meetings into the upload system (more details to follow).

Working at a distance

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We have seen some collaborative environments that will help you to share ideas (e.g. Google Colab, repl.it, Overleaf). Don't forget Google Docs as well, which can be very convenient for making notes of a meeting as it's in progress for all to see.

Group project 1

You will find another video to follow this one which is the launch for the first group project. Make sure you watch it to find out what you need to do!

Computer labs

In the Week 11 computer lab we will look at how spreadsheets can help with mathematical investigations.

This will be the final lab class for my half of the course this semester (no more Presentation labs after today)!