

# Tutorials and marking

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## Guiding Principle

**Teach the students you have, not  
the students you wish you had**

# Reasons for having a tutorial

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- For students to practise applying things that have been covered in lectures
- To provide students with **feedback**
- To address students' motivation and to increase their confidence
- To allow students to ask questions
- To help students make sense of the concepts they are learning, and learn what the expected standards are relating to their achievement
- To find out how students are doing
- So students can learn from each others' triumphs and disasters
- ...

# The importance of feedback

- A study of first year engineering students in Scotland showed that an important contributory cause of student failure was a lack of feedback on progress during the first term of their studies
- Students generally find timely feedback far more useful than delayed comment
- Tutorials are the ideal place to give feedback

# Preparation

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- Find out from the lecturer in charge of the module what you are expected to do - ask if you are not told - and don't assume that things will work the same way as they did when you were an undergraduate
- Think in advance how you are going to do what is required
- Look at the tutorial questions to make sure you can do them
- Make sure that the techniques you use for solving the problems are consistent with those used in class
- Look for fresh insights and illustrations, even in the most elementary mathematics

# How to ask and answer questions

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- If you ask a very general question such as ‘any questions about the lecture material on algebra?’ then it is likely that you will get no response
- In general, it is better to ask specific questions in order to obtain meaningful answers
- There are many ways to get students to participate (making the class fun, threatening, challenging) – try to find a way that works for you
- A typical question from students is ‘how do you do question 3?’ A reasonable response is to do a similar question
- Sometimes you should answer a question with ‘I need to think about that one and tell you next time’
- Beware of jargon - *clearly, trivially, by inspection, ...*
- Take care when answering very stupid questions

# Caring

Even your weakest students will quickly notice if you don't care

- If students do well on a piece of work then praise them
- If they do poorly, commiserate with them
- If they are stuck on a problem, help them with it
- If they can't understand uniform convergence, explain it to them
- **Beware of showing off**

# Frustration

Examples?

# Frustration

## Examples?

- The students have not prepared for the tutorial
- They have missed lectures
- They haven't brought their notes
- They arrive late
- The students don't laugh at your jokes
- Anything to do with fractions or powers
- Expansion of  $(x + y)^2$
- Can't do  $\epsilon - \delta$  proofs
- ...

# Ethical issues for tutors

Examples of dos and don'ts?

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## Examples of dos and don'ts?

- If you know someone socially (or are related to them), then **don't assess them!**
- You should also not assess someone who you are tutoring privately
- Don't abuse a position of trust
- If you suspect that students are cheating (e.g. identical homeworks submitted), then pass it to the lecturer in charge as quickly as possible. **Do not try to deal with it yourself.**
- Do not help a student to cheat, e.g. by doing their homework for them. There are serious penalties for this for both of you

# Marking exercise

## Instructions

- Note: the correct answer is  $x_1 = -1$ ,  $x_2 = 4$

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### Instructions

- Note: the correct answer is  $x_1 = -1$ ,  $x_2 = 4$
- Mark the script in the range **0** – **9** and write your mark on the yellow slip
- Now mark the script again using the marking scheme, and write your mark on the green slip

# Marking for feedback

- **Give some feedback!**

- Mark what's right 
  - mark what's wrong 
  - and give comments where necessary
- 
- Mark anonymously (even if the scripts have names attached)
  - You may also need to assign a **grade** – i.e. a numerical mark, or a letter
    - Tell the students what the grades mean
    - If a student complains about a grade, then deal with them individually, and courteously
    - Don't hand scripts back in achievement order

# Partial credit

You should find out from the lecturer about partial credit for questions. Detailed mark schemes should be provided for you.

## General guidelines

- If someone gets part (a) wrong, then don't penalise them for using their wrong answer in working through part (b)
- Sometimes an error will make the rest of the question easier. Use your judgment as to how many marks to give for this subsequent work
- If the question specifies the method that should be used, then don't give full credit to answers that use a different method
- If the question doesn't specify the method that should be used, then give full marks to a correct answer obtained using any correct method (even if it's a very easy calculation)
- Be very careful in marking questions where the answer is given (e.g. *show that...* questions)

## Final results exercise

Add up (in your head) this list of marks awarded in a 12 question exam:

4 3 16 5 17 0 3 7 9 2 4 11

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- Incorrect adding of exam/test marks is one of the most annoying things for students whose work is being marked, and for the staff who have to coordinate things.
- If discovered it undermines the trust of the student whose work is being marked, and if not discovered might wrongly result in inconvenience (or failure) for them.
- Add them up in different ways: first to last and last to first.
- Errors often occur copying numbers from inside to outside of answer book, so add up those inside as well as those outside.
- If 3 or more counts agree, then you can be reasonably confident you have the correct total. Just make sure you write it down correctly!

# Anything else?

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## More training:

Anything (useful) in your own university?

~~Unfortunately, the (UK) Higher Education Academy is being restructured and so the annual Workshop for postgraduate students who teach Mathematics, Statistics and Operational Research they ran for us will almost certainly not happen this academic year.~~

*NEWS from Friday 26th September 2014*

The (UK) Higher Education Academy is being restructured. The annual **Workshop for postgraduate students who teach Mathematics, Statistics and Operational Research** might be revived and run with the support of various mathematical sciences bodies.

Details will follow if/when available — still waiting!

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