



THE UNIVERSITY OF  
**SYDNEY**

**Faculty of Engineering and Information Technologies**

# **Tutor Orientation Session**

**Semester 1, 2010**

## Contents

Introduction	3
Micro-Teaching Guidelines	5
What it Means to be a Tutor?	6
Students' Views on Important Qualities of a Tutor or Laboratory Demonstrator	7
Survival Tips for the New Tutor	7
Teaching Pointers	8
Effective Questioning	9
Preparing for a Session	10
Tutorial/Lab Preparation and Reflection Sheet	11
Tutorial/Lab Preparation and Reflection Sheet (blank)	12
Reflecting on Your Experience as a Tutor	14
Reflective Learning Sheet	15
Hypothetical Scenarios – What Would You Do?	16
Plagiarism	19
Useful Resources	20
Forms Required for the Completion Certificate	21
Reflective Learning Sheet	22
Tutor Completion Form	23
Tutor Survey Form	24

**Acknowledgement:** This document contains, or is based on, materials from:

- ITL, <http://www.itl.usyd.edu.au/programs/tutors.htm>
- Faculty of Science Tutor Training course, <http://science.uniserve.edu.au/courses/tutortraining/>

## Introduction

As a tutor or laboratory demonstrator within the Faculty of Engineering and Information Technologies, you play a crucial part in the education and overall experience of our students. The success of our courses depends very much on your efforts as you deal with students on individual basis and provide the most effective learning opportunities. Your primary role is teaching but the students will also look to you as a role model and a mentor providing general advice, i.e. a “friendly face wise in the ways of the University”.

The Faculty of Engineering and Information Technologies is committed to providing a high quality learning experience for our students and to supporting all those involved in teaching. To ensure the quality of our Faculty teaching program, we aim to select tutors who are suitably qualified and experienced. Because we place so much reliance on the work of tutors and demonstrators, we provide a Tutor Orientation Session and these notes to give you some tips and pointers to keep in mind whilst conducting tutorials or laboratory classes.

This Tutor Orientation Session is the first part of a program designed to support and inform you in your tutoring/demonstrating role. Successful completion of the program will lead to an accreditation certificate. This certificate may form part of your Curriculum Vitae and provide evidence that your skills of communication, interaction and teaching, as well as your expertise in your discipline area, have been recognised by the Faculty of Engineering and Information Technologies and the University of Sydney Institute of Teaching and Learning (ITL).

To be eligible for a Certificate of Completion, you are required to complete the following:

- 1) **Tutor Orientation Session:** this is a 3-hour, interactive session, presented by Faculty and ITL staff. The first part will briefly cover some general aspects of small group teaching and provide case studies to discuss with your peers, tutors and staff. The second part will involve a microteaching session (see p.5) which will give you an opportunity to try out what you know about teaching and receive feedback in a supportive environment.

Many of our Faculty staff and tutors are keen to promote good teaching. They have received awards for outstanding teaching from the University, Faculty and professional organisations, have completed courses with ITL or collaborated with ITL, and have obtained excellent student evaluation of teaching. We hope that as new tutors you will be able to tap into this knowledge and enhance the learning experiences of your students.

- 2) **Two reflective exercises related to your teaching:** we have included a “Reflective Learning Sheet” on p.22. It contains questions that you can use to reflect on your effectiveness in helping students to learn. Different ways suit different situations, but the common theme is to prompt you to consider how students learn and what your role is in facilitating their learning. You are required to complete at least 2 reflective sheets during the semester (e.g. for your tutorials in weeks 5 and 9) and discuss them with your UoS coordinator.

- 3) **Tutor survey:** in week 13 you need to complete a brief tutor survey (p.24) and hand it to your UoS coordinator.
- 4) **Tutor completion form:** this form is on p.23; it is completed by your UoS coordinator in week 13. You need to send it to your School tutor coordinator by week 14 of the semester. If the requirements are completed, the School tutor coordinator will finalise the paperwork and organise the Certificate of Completion.

The School tutor coordinators are listed below:

<b>School</b>	<b>Tutor coordinator semester 2 2009</b>
Aerospace, Mechanical and Mechatronic Engineering	Dr Rod Fiford rod.fiford@sydney.edu.au
Information Technologies	Dr Josiah Poon josiah.poon@sydney.edu.au
Chemical and Biomolecular Engineering	A/Prof Vincent Gomes vincent.gomes@sydney.edu.au
Civil Engineering	Dr Li Liu, li.liu@sydney.edu.au
Electrical and Information Engineering	Dr Rafael Calvo, rafa@ee.usyd.edu.au

We hope that you will find this program useful, stimulating and thought provoking. Sharing our experiences and reflecting on what we have done contributes greatly to our development as teachers.

*The second part of the tutor orientation session involves a micro-teaching session. This will give you the opportunity to try out what you know about teaching and get feedback.*

### **Micro-Teaching Guidelines**

(provided by the Institute of Teaching and Learning)

#### **What is micro-teaching?**

“Micro-teaching” is a teaching session conducted in a short period of time. We ask you all to prepare a 3-minute presentation whereby you “teach” a small group of your peers (usually 8 - 10) about a topic (any topic) that really interests you (e.g. how to play volleyball, how to make origami, etc.). Please avoid a complex research topic as you will find 3 minutes is a very short time!

Remember that your audience are peers from your Faculty. However, many of them will not be experts in your field, so you will still need to keep it simple and clear. This is a chance to try a different way of teaching, in a low-risk environment. You will receive formative (constructive) feedback to help you improve your future teaching.

#### **What do I have to do?**

- You “teach” your group for 3 minutes.
- The facilitator gives you a warning when 3 minutes are nearly up.
- You reflect (aloud) on whether you think you achieved your objectives (self reflection).
- Your peers give you feedback on what they found effective in helping them to learn; and also what could be improved. Negative or critical feedback will (we hope) be avoided (peer assessment).
- If needed, the facilitator gives further feedback.
- You will probably have about 10 minutes in total for presentation and discussion.
- You are expected to give feedback to the others in your group on their presentation.

#### **How do I prepare?**

- We encourage you to adopt a student-centred approach, avoiding just lecturing and instead thinking how to actively involve the “learners” in your group.
- Focus on what you want your peers to *learn*, not what *you* want to *teach* them.
- Please keep the session low-tech. There is no provision for use of a computer (including Powerpoint) or overhead transparencies. There will be a white board that you may use. Prepare one handout at the most; it is OK to have none. Other teaching aides or props may be useful.
- Practise your timing beforehand.

#### **Where do I go?**

You will be divided into groups and provided with a room number at the end of the first session.

Remember, keep your presentation simple, and focus on just 1-2 learning outcomes you want your “students” to achieve.

Good luck and have fun!

# **What it Means to be a Tutor at the Faculty of Engineering and Information Technologies**

## **The Many Facets of Being a Tutor**

### **Teaching role**

Laboratory and tutorial classes are usually organised in such a way that there is a specific amount of material to be covered in each session. The presentation of new material should generally be covered in lectures, whilst the follow-up and individual tuition is carried out by you, the tutors and demonstrators.

### **Role Model**

Students will look to you as experts in the area and for advice in their learning. You will serve as a *role model* for the students in your groups. You can leave quite a lasting impression – be sure that it is a good one!

### **Provider of Evaluation and Feedback**

It is important that you respond appropriately to the work of students in your group. They require adequate feedback to let them know how they are going and to assure them that they have grasped concepts correctly. Positive reinforcement is a very effective learning and teaching aid.

### **Mentor**

As tutors and laboratory demonstrators you will be able to get close to the students in your group and to serve as a mentor, not only for your discipline area, but more generally as well. Some of your students may just be starting at University and may be under considerable pressure. Listen to what your students say, and if possible help them to cope with the pressures of this and other courses.

## **Students' Views on Important Qualities of a Tutor or Laboratory Demonstrator**

After asking students to choose the level of importance of twenty qualities of tutors and laboratory demonstrators, their ten most important were:

1. Gives clear explanations when asked questions;
2. Demonstrates practical techniques clearly;
3. Has good knowledge of the theoretical subject matter;
4. Marks work consistently;
5. Provides a safe workplace;
6. Gives the same attention to all, without bias towards individual students;
7. Is friendly;
8. Is experienced in teaching your unit;
9. Organises everyone so they know what to do; and
10. Supports students and helps their self-confidence.

These were all chosen as important/extremely important from a sample size of 456 students in the fields of Chemistry, Physics, Pharmacy, Biomedical Sciences, Chemical Engineering and Biology.

### **Survival Tips for New Tutors**

- Nervousness is very normal – think back to when you were a student and realise that your class might be more nervous than you are.
- Remember that you have a great deal to offer your students, both in content knowledge and in helping survive the university experience.
- Introduce yourself and tell the students a little about yourself.
- Clearly describe how the session fits in with the rest of the course.
- Explain your expectations of the students with respect to attitude, preparation and interaction.

[Adapted from Emerson, 1996]

## Teaching Pointers

- Be respectful and encouraging;
- Show your enthusiasm, use eye contact;
- Learn students' names and use them;
- Take care never to intimidate students nor put them down;
- Be patient and keep your cool;
- Provide direction, not dictatorship;
- Guide the conversation, but remember to limit how much you talk;
- Encourage participation. Encourage interaction by encouraging students to answer each others' questions;
- Summarize the ideas presented in sessions;
- Ask open-ended questions and listen to what your students have to say;
- Help your students to help themselves;
- Use clear instructions to help students accomplish the required results for themselves;
- Remember, different people *learn* in different ways, so you may need to repeat the material more than once, and to present it in more ways than one, in order to cater for everybody in your group;
- Do not allow students to intimidate you, for example older or 'more knowledgeable' students. You have a sound academic background and should be thoroughly prepared for the job, so believe that you have something to offer;
- Ensure that everyone gets something out of the session. Take care not to ignore anybody for too long. Above all, do not allow any one student to exploit or monopolise your time. Make sure that everyone gets a fair share of your time. Sometimes you can use able students to help some of their colleagues while you deal with others, but be sure that the correct message is being transmitted;
- As you move around your students, a few well-chosen questions will help you to assess how well the material presented has been assimilated. Just because it has been *taught* does not mean that everyone has *learned* it.



## Effective Questioning

The main aim of effective questioning is to generate more than a yes/no answer from students. The following *Questioning Stems* can be used to help students realise what they already know and to probe a student's understanding of a topic.

### **During a laboratory session, questions that help a student to recall information they already know**

Did you notice ...?  
What happened when ...?  
How many ...?  
What did you find ...?  
Have you seen ...?  
What causes ...?  
What do we already know about ...?

### **Getting a student to seek relationships/patterns in his/her knowledge**

What is the difference between ... and ...?  
How are ... and ... similar?  
Compare ... and ... with respect to?  
How does ... relate to what we learned before about ...?  
What are the strengths and weaknesses of ...?  
How does ... affect ...?

### **Questions that encourage the application of students' knowledge**

What is a new example of ...?  
How would you use ... to ...?  
What are some possible solutions for ...?  
Explain why ...?  
Explain how ...?  
Why is ... important?  
What is the meaning of ...?  
What is the best ... and why is it the best?

### **Questions that get students to speculate on their knowledge**

What might happen if ...?  
If we wanted to do ... instead, how could ... be used?  
Can you find a way to ...?  
If ... was altered, what do you predict would happen?

[Adapted from Chalmers & Fuller (1995); Kauffman (1997)]

## Preparing for a Session

### Prior to each session:

- read through the material to be covered;
- ensure you understand and can explain any new necessary procedures or techniques;
- identify and make sure you understand the objectives, both obvious and implicit;
- identify any of your own queries and **follow them up**;
- try to anticipate where students might have concerns or problems– work out what you can do to prevent these occurring; and
- read through any suggested readings that the students are offered

### On the day:

- turn up to the venue before the students to check out the layout of equipment and materials, to check that you can use the equipment and that all of it is working;
- check that the ventilation and lighting are satisfactory;
- know who the technical staff responsible for the venue are and where to find them; and
- find out how the material to be covered is integrated with the rest of the unit including assessment.

[Adapted from McComb (1997); Newble & Cannon (1994)]

The next page contains a “Tutorial/Lab Preparation and Reflection Sheet” that you may find useful; an empty sheet that you can copy and use is also included.

## Tutorial/Lab Preparation and Reflection Sheet

UoS:..... For week commencing:.....

Tutorial/Lab Title:.....

**Objectives/learning outcomes expected for students:**

At the end of this session students will have:

.....  
 .....

<b>Preparation for the session and running of the session</b>			
<b>Steps of the tutorial/lab</b>	<b>Content</b>	<b>Comments</b>	<b>Time</b>
<b>Preparation</b>	<p><i>Review of student preparation that was expected.</i></p> <p><i>Setting the context for this tutorial/lab</i></p> <p><i>Explain the objectives of this session</i></p> <p><i>Provide some motivation (other than “you will need to know this for the exam!”)</i></p>	<p><i>Sample questions to ‘get the ball rolling’</i></p>    <p><i>Some genuine motivation related to learning objectives, student expectations or vocational demands</i></p>	<i>How long in minutes</i>
<b>Body</b>	<p><i>There may be one or more steps in the body of the tutorial lab. Steps correspond to activities or discussion which focus on one single idea</i></p> <p><i>Step 1:</i></p> <p><i>Step 2:</i></p> <p><i>Step 3:</i></p> <p><i>etc.</i></p> <p><i>Possible questions to probe student understanding/stimulate discussion:</i></p>	<p><i>For each step there may be points that you need to note, such as the answers to particular questions, extension work for ‘clever clogs’, reminders about what you need to do or say, or not.</i></p> <p><i>Step 1:</i></p> <p><i>Step 2:</i></p> <p><i>Step 3:</i></p> <p><i>etc</i></p>	<i>How long in minutes</i>
<b>Conclusion</b>	<p><i>Make some statements about what has taken place so that students can feel that they have achieved the objectives set out above.</i></p>	<p><i>Actual statement of conclusion is helpful. Don’t forget to allow time for this before the tutorial ends (on time, i.e. xx:50!)</i></p>	<i>How long in minutes</i>
<b>Next week</b>	<p><i>Indicate where you are going next. Directions for preparation for further exploration and preparation for next session.</i></p>	<i>Details</i>	
<b>Reflection after the session</b>			
<b>Queries/concerns that I need to follow up:</b>			
<b>What worked well during the session:</b>			
<b>How may I have improved this session:</b>			

## Tutorial/Lab Preparation and Reflection Sheet

UoS:..... For week commencing: .....

Tutorial/Lab Title:.....

**Objectives/learning outcomes expected for students:**

At the end of this session students will have:

.....  
 .....

<b>Preparation for the session and running of the session</b>			
<b>Steps of the tutorial/lab</b>	<b>Content</b>	<b>Comments</b>	<b>Time</b>
<b>Preparation</b>			
<b>Body</b>			
<b>Conclusion</b>			
<b>Next week</b>			

**Reflection after the session**

**Queries/concerns that I need to follow up:**

**What worked well during the session:**

**How may I have improved this session:**

## **Reflecting on Your Experience as a Tutor**

“Reflection” is something that you already do everyday. You might think about your day’s work as you make your way home, or relate problem you have had recently to friends and colleagues during lunch. For example, as a tutor, you may discuss a tutorial with your colleagues afterwards, trying to figure out why some of the students seem disengaged and didn’t complete all exercises. You are likely to talk about what you have done, what you might have done differently and how you feel about it all.

Reflecting on our experiences is a vital component of our learning. There is a large body of evidence to support the idea that we learn much more effectively and much more deeply when we take the time to reflect on what and how we are learning.

As part of the Tutor Training Program you are required to reflect on your experiences as a tutor and complete at least two reflection exercises during the semester, e.g. after the labs in weeks 5 and 8. You are encouraged to keep a reflective diary and write after each lab. The reflection sheet is on the next page, and also at the end of this document.



## Reflective Learning Sheet

Tutor name:.....

UoS:.....Date:.....

- What happened in this session?
  
- What were the highlights or notable events?  
*What happened that you felt was important for the students or for you? Were there any difficulties or problems? Were there any successes?*
  
- Did the students achieve the objectives of the session?  
*What were the objectives? How did you help the students to achieve them? How successful were they? How successful were you?*
  
- How did you feel about the session?
  
- If you were to tutor that session again, what would you do differently? What would you do the same?
  
- What is one thing you have learned about your teaching or your students today?

## Hypothetical Scenarios - What would you do?

### Case 1

Students in an Engineering Dynamics unit have an assignment due in two weeks. During the first hours of the lab session, you ask students to work on a problem with their neighbour. There is a pause, and then a few students start mumbling to one another, not about the problem. When you ask them what is going on, they say fairly aggressively that they just want you to give them the answers and let them go home. When you suggest they would learn more by working on the problems in groups, they complain that no one had told them that this course would involve compulsory group work. Another group of students complain that it isn't fair that you will not tell them how the problems are solved as they paid for this course and they consider this part of the service they can expect. The rest of the students either look out of the window, just stare into their problem sheets or are occupied playing web games.

*What are the issues here?*

*What action could you take?*

### Case 2

You are a tutor in a large laboratory class. Students work in groups of six. This is week 5 of semester. You have introduced the objectives of the experiment and highlighted some of the experimental techniques. You notice one particular group of students that are working together. While all members of the group appear to be working, you notice that two of the group seem to be particularly involved while the other four are just following their instructions. Soon the experiment is complete. You check the work and find it has been done competently. As the students are leaving you hear one of the four students remark "Even though you don't learn anything, at least you get out of the lab early".

*What are the issues here?*

*What action could you take?*



**Case 3**

A good student who is taking a combined BE/BSc degree has a lecture clash because of the core requirements of the component degrees that he must take this year. He asks you to explain the details of material given at lecture he could not attend but has copied notes for from a fellow student. It is clear the explanations will take a reasonably long time.

*What are the issues here?*

*What action could you take?*

**Case 4**

A mature-age student who also works long hours for financial support of his family comes to you for help in preparing an assignment that is due the following week. You already know that he has difficulties keeping up with the younger classmates. He explains that he has only had time to start the first two out of six problems and he still does not understand the principles involved.

*What are the issues here?*

*What action could you take?*

### **Case 5**

A group of students come to you at the start of a tutorial session with complaints about the assignment marking. The assignments were handed back the previous week and students have compared their individual assessments. They all claim to have lost marks for no apparent reason; they have brought in the course textbook to show that their method is correct and are unhappy that their answers to one particular question were not 100%. They also cannot understand why they received different assessment results for this particular question as they worked as a team on the assignment and helped each other out with this question. They want you to go through the assignments with them to show them what mistakes they made.

*What are the issues here?*

*What action could you take?*

### **Case 6**

A group of students are working together in a tutorial session on a mathematical problem that is a major component to a highly weighted assignment. The UoS coordinator is expecting students to submit individual solutions for this assignment. From your observations it appears that one student in the group has worked out a solution procedure on paper and has placed it in the centre of the table for others to follow.

*What are the issues here?*

*What action could you take?*

## Plagiarism

**Plagiarism** n. *The appropriation or imitation of another's idea and manner of expressing them, as in art literature, etc. to be passed off as one's own.*

[Macquarie Dictionary]

The University of Sydney has very strict policies regarding Plagiarism and we need your help so students learn the importance of giving fair credit to others' ideas and to enforce these policies.

The University Policy on plagiarism (Academic Honesty in Coursework) is available at <http://www.usyd.edu.au/senate/policies/Plagiarism.pdf>. We recommend that you re-read it and familiarise yourself with the responsibilities of the academic staff and tutors and the actions that must be taken in the case of suspected plagiarism. Please note that cover sheets are required to be submitted for all assessable tasks.

When you suspect that a student has copied an assignment (in full or parts of it), you should inform your unit coordinator as soon as possible. Report all the details of the case and include copies of the material supporting your statement.

If the student doesn't know how to give appropriate credit to an author, you should advise him on how to do it, according to the practice established by your unit coordinator.

# Useful Resources

## 1. Web-based resources

ITL's Tutoring web site

<http://www.itl.usyd.edu.au/tutoring/>

Faculty of Science Tutor and Demonstrator Program

<http://science.uniserve.edu.au/courses/tutortraining/index.html>

University of Queensland Tutoring site

<http://www.tedi.uq.edu.au/SessionalTeaching/>

Flinders University Tutoring site

[http://www.flinders.edu.au/teaching/support/sessional-teachers/support-for-sessional-teachers\\_home.cfm](http://www.flinders.edu.au/teaching/support/sessional-teachers/support-for-sessional-teachers_home.cfm)

Keeping a Reflective Journal (Australian Scholarship in Teaching Project)

<http://www.clt.uts.edu.au/Scholarship/Reflective.journal.htm>

Speaking to an audience advice

[http://www.lib.utexas.edu/services/instruction/tips/ic/ic\\_speak.html](http://www.lib.utexas.edu/services/instruction/tips/ic/ic_speak.html)

Unit of Study Evaluation form, Faculty of Engineering and Information Technologies

<http://www.itl.usyd.edu.au/use/questionnaires.htm>

University of Sydney Graduate Attributes Policy

<http://www.itl.usyd.edu.au/graduateAttributes/policy.htm>

University of Sydney Academic Honesty policy

<http://www.usyd.edu.au/senate/policies/Plagiarism.pdf>

## 2. Books

Bertola, P. and Murphy, E. (1994) *Tutoring at university: a beginner's practical guide*. Bentley, WA: Paradigm Books. [378.125 31, Fisher Research]

Brown, G. and Atkins, M. (1990) *Effective teaching in higher education*. London: Routledge. [378.125 14, Fisher Undergraduate]

Chalmers, D. and Fuller, R. 1995 *Teaching for Learning at University: Theory and Practice*, Edith Cowan University, Perth, Western Australia.

Lublin, J. (1987) *Conducting tutorials*. Kensington, N.S.W. Higher Education Research and Development Society of Australasia. [378.1794 8, Fisher Research]

Newble, David & Cannon, R. (1994) *A handbook for teachers in universities & colleges : a guide to improving teaching methods*; illustrations by Zig Kapelis. London : Kogan Page. [370.712 2 A, Fisher Short Loan]

## **Forms Required for the Completion Certificate**

1. Reflective Learning Sheet - at least 2 forms to be completed throughout semester and discussed with UoS coordinator;
2. Tutor Survey form - to be completed in week 13 and handed to the UoS coordinator;
3. Tutor Completion Form - to be completed by the UoS coordinator in week 13 and returned by the tutor to the School tutor coordinator by week 14.



## Reflective Learning Sheet

Tutor name:.....

UoS:.....Date:.....

- What happened in this session?

- What were the highlights or notable events?

*What happened that you felt was important for the students or for you? Were there any difficulties or problems? Were there any successes?*

- Did the students achieve the objectives of the session?

*What were the objectives? How did you help the students to achieve them? How successful were they? How successful were you?*

- How did you feel about the session?

- If you were to tutor that session again, what would you do differently? What would you do the same?

- What is one thing you have learned about your teaching or your students today?



### Tutor Completion Form

This form must be completed by the respective UoS coordinator in week 13 of the semester:

Tutor details

Name:.....

Phone number: .....

Address (for mailing of the certificate):.....

.....

To be completed by the UoS coordinator:

		√	Comments
1	The tutor has completed at least 2 reflective learning sheets and we have discussed them together.		
2	The tutor has completed the tutor survey.		

UoS coordinator name: .....

UoS coordinator signature: .....

Date: .....

The completed form must be returned by the student to the respective School tutor coordinator by week 14 of the semester:

School	Tutor coordinator semester 2 2009
Aerospace, Mechanical and Mechatronic Engineering	Dr Rod Fiford rod.fiford@sydney.edu.au
Information Technologies	Dr Josiah Poon josiah.poon@sydney.edu.au
Chemical and Biomolecular Engineering	A/Prof Vincent Gomes vincent.gomes@sydney.edu.au
Civil Engineering	Dr Li Liu, li.liu@sydney.edu.au
Electrical and Information Engineering	Dr Rafael Calvo, rafa@ee.usyd.edu.au



## **Tutor Survey Form**

To be completed by the tutor in week 13 of the semester and returned to the respective UoS coordinator.

Tutor name:.....

UoS: .....

UoS coordinator name: .....

1. What was the best thing about being a tutor in this UoS?

2. How could life for tutors in this UoS be improved?

3. How could the student experience and learning in this UoS be improved?