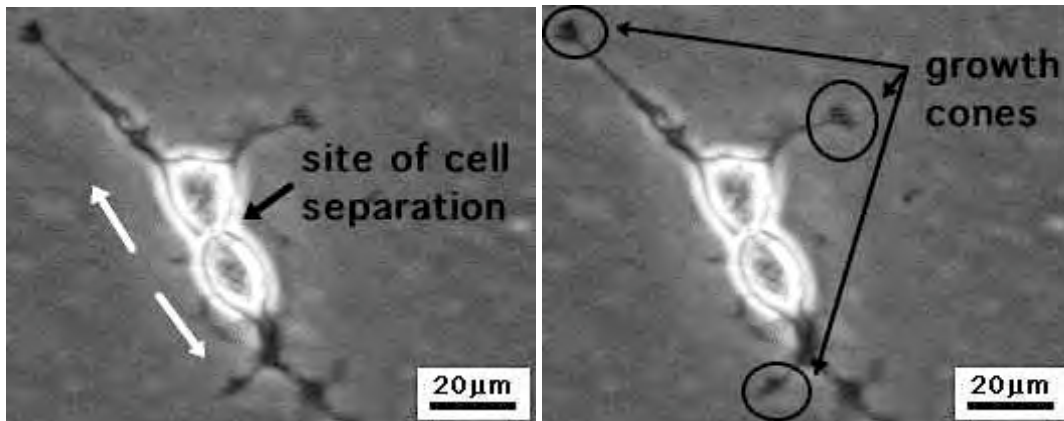




THE UNIVERSITY OF  
NEW SOUTH WALES

School of Medical Sciences

# ANAT3231 CELL BIOLOGY



Two cells (neurons) which have recently divided.

## Session 1, 2008

## Course Overview

Dr Mark Hill

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www: <http://cellbiology.med.unsw.edu.au>

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Dr Mark Hill  
(course coordinator)

From the course coordinator...

**Welcome** to Cell Biology in 2008 and thank you for choosing this exciting topic! Cell Biology and its associated methodologies are now found at the core of basic scientific investigations and current medical research. Subsequently skills and knowledge from this current course will be a great advantage in your own future career. Students who have completed this course have enjoyed both the pace, content and structure of the course. I am also continually assessing their feedback in the updating, design and presentation of the course.

**Notes concerning 2008.** Firstly, there are several changes to the course due to a change in UNSW semesters from 14week to a 12week structure. Secondly, the current timetable means some reorganised lecture slots due to clashes with my Medical teaching. I also know that there some student have timetable clashes with other courses that we have not yet been able to solve. Hopefully we will overcome these few “teething” problems and have an enjoyable learning experience.

**UNSW Cell Biology**, is an online resource I have developed to aid your own independent learning, please explore its content. It not only has the usual lecture slides, but also podcast broadcasts, lab project support, online external resources (included complete Cell Biology textbooks), access and searching of the current literature (both research and reviews) and much more.

In **Lectures and Labs** I provide regular handouts and clearly identify any examinable material. A key component of course structure is the revision final lecture, an opportunity to review course material and ask questions about difficult concepts. As part of the course I also encourage you to develop the general scientific skills of critical thinking, analysis and scientific writing. These are important life skills applicable and required for any future (scientific) career.

This **handout** contains information designed to help you get started and plan for this semester, please take the time to read through it and contact me if you have any difficulties. Also feel free to contact me with questions and course feedback by email at any time.

*Dr Mark Hill* (February 2008)

## **COURSE OUTLINE CONTENT DETAILS**

### **Course staff**

- Dr Mark Hill
- Office: room G20 ground floor, Wallace Wurth Building
- Email: m.hill@unsw.edu.au

### **Student Contact**

- University policy concerning student contact is: "When a student is enrolled into University of New South Wales, he or she will be automatically issued with a University email account. The School will use that email account as the official electronic channel to communicate with each student."
- Appointments with Dr Mark Hill should be made initially by email or through the SOMS office (room MG14).

### **School of Medical Sciences Student Advisor**

- The current SOMS advisor is Carmen Robinson (room MG14)
  - Telephone: (+612) 9385 2464
  - Fax: (+612) 9385 2866
  - Email: c.robinson@unsw.edu.au

### **Course information**

- 6 Units of credit, Science/Anatomy program.
- Prerequisite: ANAT2200 or ANAT2241

### **Course structure**

- Two lectures and a single tutorial/laboratory per week.
  - Lectures: Mon 9am, Tue 2pm ASBus 205 (K-E12-205)
  - Laboratory: Wed 10 - 12 am MedCL M211 (K-C27-M211)

### **Grievance procedure**

- Problems or a grievance with the course, you should first attempt to resolve it with the course organizer (Dr Mark Hill, room G20). If the grievance cannot be resolved in this way, it should be directed to the Head of Department (Prof. Phil Waite, room G21) or the department's grievance officer (Dr Priti Pandey, room G5).

### **Course Aims**

- To present the current theories and applications of cell biology.
- To describe internal and external cellular structures.
- To examine dynamic changes within the cell.
- To cover emerging cell biology research technologies.

## Assessment

- There will be three parts to the course assessment.
  1. Assignment - A written assignment from a selection of topics. 20%
  2. Laboratory - A project prepared throughout session. 20%
  3. Theory - A written test held during the examination period. 60%
- **Assessment Design** has been structured to develop and examine the following graduate attributes and specific learning skills:
  - Student independent learning/research abilities
  - Student scientific writing and referencing skills
  - Student teamwork in small groups
  - Student group work contribution
  - Student ability to plan time and meet assessment deadlines
  - Student acquired knowledge from lecture/lab presentations
  - Student application of knowledge to problem solving
- For more information see also UNSW Guidelines on Learning
  - <http://www.guidelinesonlearning.unsw.edu.au/guidelinesHome.cfm>
- **Student learning Outcomes** By the end of this course you will have learned the current understanding of both cell structure and function and how this is dynamically organized. You will also understand the major methods used to study cells and their application to medical research. This information can then be integrated with other program subjects to give a cellular basis for Anatomy. Importantly the teaching methods and content are designed to encourage your own self-motivated scientific enquiry.
- **Examiner** The course organizer (Dr Mark Hill) will be the examiner. The course assessor is A/Prof Brian Freeman.
- **Theory examination** will be an exam within the session 1 exam period and will conform to University examination guidelines. Students absent through illness or misadventure should immediately contact UNSW Student Central. For more information see UNSW A-Z Guide Special Consideration.

<https://my.unsw.edu.au/student/atoz/SpecialConsideration.html>  
<https://my.unsw.edu.au/student/atoz/UNSWStudentCentral.html>
- **Supplementary examinations** will only be offered if the student is unable to attend the final examination for medical or misadventure reasons.
- **Assignment and Lab Project Dates** Current planned submission and project assessment dates are shown in the course schedule (page 6).
- **Assignment submission** Can only be through the SOMS Office (room MG14) during business hours and must include the completed "Assignment coversheet". Assignment coversheet includes a student declaration, signed

and dated, and a signature and date of the receiving SOMS secretary. Assignments submitted with incomplete coversheet information will not be assessed. Late Assignments will be penalized by 5% / day late.

## Academic honesty and plagiarism

Please Read - Plagiarism & Academic Integrity [www.lc.unsw.edu.au/plagiarism](http://www.lc.unsw.edu.au/plagiarism)

### What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one's own.\* Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism. Knowingly permitting your work to be copied by another student may also be considered to be plagiarism. Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism. The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via: [www.lc.unsw.edu.au/plagiarism](http://www.lc.unsw.edu.au/plagiarism)

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

\* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle † Adapted with kind permission from the University of Melbourne.

## Course Schedule Cell Biology (Timetable 2008 S1 guide only, subject to change)

### March

09Mar	Lecture cancelled	first lecture Tuesday
10Mar	Lecture01	Cell Biology Introduction
17Mar	Lecture02	Cells Prokaryotes
18Mar	Lecture03	Cell Compartments

*Mid-session recess 23 March to 30 March (Easter 21-24 March)*

### April

31Mar	Lecture04	Cell Nucleus
01Apr	Lecture05	Protein Export
07Apr	Lecture06	Protein Import
08Apr	Lecture07	Cell Mitochondria
14Apr	Lecture08	Cell Junctions
15Apr	Lecture09	Cytoskeleton I
21Apr	Lecture10	Cytoskeleton II
22Apr	Lecture11	Cytoskeleton III
28Apr	Lecture12	Extracellular Matrix I
29Apr	Lecture13	Extracellular Matrix II

### May

05May	Lecture14	Cell Division I
06May	Lecture15	Cell Division II
12May	Lecture16	Cell Death
<b>12May</b>	<b>Assignment Submission</b>	
13May	Lecture17	Signal I
19May	Lecture18	Signal II
20May	Lecture19	Signal III
26May	Lecture20	Development I
27May	Lecture21	Development II

### June

02Jun	Lecture22	Stem Cells
03Jun	Lecture23	Revision

*Study Period 7 June to 10 June*

**Examinations 11 June to 27 June**

<https://my.unsw.edu.au/student/resources/AcademicCalendar.html>

<http://www.timetable.unsw.edu.au/2008/ANAT3231.html>

## Resources for students

### • Textbooks

- **Essential Cell Biology** (2nd ed.) Alberts, et al. 2003, is recommended for this course and page references are given in lectures. Additional online textbooks from NCBI Bookshelf can also be used, consult course organizer.
- <http://cellbiology.med.unsw.edu.au/units/science/textbooks.htm>

### • Website

- Additional course information and links can be found from the course homepage. Lectures slides and handouts are available for current students from UNSW Embryology Online or course homepage and are for educational use only.

### • UNSW Cell Biology Online

<http://cellbiology.med.unsw.edu.au>

- Online- ANAT3231 lecture pages  
<http://cellbiology.med.unsw.edu.au/units/science/lectures.htm>
- Online Textbook information  
<http://cellbiology.med.unsw.edu.au/units/science/textbooks.htm>
- Cell Biology Lab  
<http://cellbiology.med.unsw.edu.au/cbl.htm>
- School of Medical Sciences (SOMS)  
<http://medicalsciences.med.unsw.edu.au/medsciences.nsf>
- SOMS Occupational Health and Safety (OHS)  
<http://medicalsciences.med.unsw.edu.au/somsweb.nsf/page/OHS>
- UNSW Unimail Information  
<http://www.disconnect.unsw.edu.au/student/zhome.htm>
- **Lecture Recordings** Available from both **UNSW Cell Biology** and **Lectopia**, online sound recording system making UNSW Lectures available in several formats (including Podcast). Lecture recordings are grouped by the id of the lecture, usually the course code.

<http://ilecture.edtec.unsw.edu.au/ilectures/ilectures.lasso?ut=90>

- **Laboratory Structure** It is important to be at this location on time, as some classes will then proceed to other locations on campus.

## Continual course improvement

- Periodically student evaluative feedback on the course is gathered, using among other means, UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process. Student feedback is taken seriously, and continual improvements are made to the course based in part on such feedback.

## Administrative Matters

- **Attendance requirements**
  - Students are required to attend each lecture and laboratory unless given special permission.
  - Students seeking special consideration should be able to provide medical certificates.
  - Students must wear a white lab coat and closed footwear in research laboratories and comply at all times with SOMS occupational health and safety requirements (found on SOMS website).
- **Assignment submission**
  - Can only be through the SOMS Office (room MG14) and must include the completed Assignment coversheet. Assignment coversheet includes a student declaration, signed and dated, and a signature and date of the receiving Anatomy secretary. Submissions with incomplete coversheet information will not be assessed. Late Assignments will be penalized by 5% / day late.
- **Occupational Health and Safety (OHS)**
  - The University policies and expectations can be found currently at:  
  
[http://www.hr.unsw.edu.au/ohswc/ohs/ohs\\_home.html](http://www.hr.unsw.edu.au/ohswc/ohs/ohs_home.html)
  - The School of Medical Sciences (SOMS) also maintains important student specific OHS information.  
  
<http://medicalsciences.med.unsw.edu.au/somsweb.nsf/page/OHS>
- **Equity and Diversity**
  - Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734) or on the web:  
[www.equity.unsw.edu.au/disabil.html](http://www.equity.unsw.edu.au/disabil.html)
  - Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements.
  - Early notification is essential to enable any necessary adjustments to be made.