



UNSW
THE UNIVERSITY OF NEW SOUTH WALES

Faculty of Medicine

School of Medical Sciences

PATH 3206

Molecular Basis of Disease B

SESSION II, 2010

TABLE of CONTENTS

	Page
Course staff	03
Course administration	03
Course details	03
Course objectives	03
Student learning outcomes	04
Graduate Attributes	04
Rationale for the inclusion of content and teaching approach	04
Teaching strategies	04
Research opportunities	05
Assessment	05
Assessment criteria	07
Submission of assessment tasks	08
Academic honesty and plagiarism	10
Course schedule	11
Resources for students	13
The Museum of Human Disease	13
Student support services	15
Course evaluation and development	15
Administrative matters	15

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Course details

Credit Points

This course is offered during semester 2 and counts for six units of credit. PATH2201 (Processes in Disease) and PATH3205 (Molecular Basis of Disease A) are prerequisites for the course. It is also advantageous for students to have undertaken previous study in ANAT3231 Cell Biology.

Summary of the course

Welcome to PATH3206 Molecular Basis of Disease B.

This course complements PATH3205 Molecular Basis of Disease A. For those wishing to pursue a career in research or hospital based laboratory work, the course will not only develop their basic knowledge of molecular processes, but also provide a framework for understanding how these processes link to the modern practice of medicine. Similarly, for those who may wish to pursue a career in the health sciences, the course will provide an understanding of the cellular and molecular processes underlying the clinical manifestations of disease.

Aims of the course

PATH3206 aims to promote understanding of the molecular pathogenetic mechanisms underlying common diseases including congenital disorders, neoplasia, as well as diseases of the gastrointestinal, genitourinary and central nervous systems.

Student learning outcomes

For the following common disorders:

- Neoplasms of the colon, cervix, skin, stomach, breast and prostate;
- Congenital, gastrointestinal, genitourinary and central nervous systems diseases;

At the completion of this course you should be able to:

1. Describe and explain the molecular and cellular pathogenetic mechanisms;
2. Describe the macroscopic and microscopic appearances;
3. Correlate the clinical features with the underlying pathogenetic mechanisms;
4. Discuss recent advances in knowledge pertaining to the molecular pathogenesis;
5. Develop written and oral skills in scientific communication.
6. Develop skills in collaborative teamwork

The intended learning outcomes are achieved through study of the common patterns of response to injury, which are often referred to as pathological processes. To understand these processes, you will draw on your knowledge of normal anatomy, histology, biochemistry and physiology.

Graduate attributes

You are encouraged to develop the following Graduate Attributes by undertaking the learning activities in this course. These attributes will be assessed within the prescribed assessment tasks (see Assessment):

1. An in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context.
2. The capacity for analytical and critical thinking and for creative problem-solving.
3. The ability to engage in independent and reflective learning.
4. The skills required for collaborative and multidisciplinary work

Rationale for the inclusion of content and teaching approach

A **collaborative, team-based approach** to learning is adopted in this course. It is anticipated that students will have an enhanced learning experience through the use of team quizzes, peer teaching and team projects. You are also encouraged to utilise your allocated teams as study groups. These skills will assist you with collaborative, multidisciplinary work in your future career.

Teaching strategies

The course employs a variety of teaching modes in order to facilitate your learning:

- 1) A series of **lectures** introduce you to pathological processes, as well as specific examples of those processes affecting organs and tissues;
- 2) Small group **tutorials** are intended to extend and amplify your understanding of material presented in lectures in an interactive format, where you are encouraged to clarify any difficulties regarding the

concepts discussed. Students will be allocated into teams and will complete individual and team quizzes. Pre-reading will be assigned for each tutorial;

- 3) **Practical classes** employ computer-based virtual microscopy, in order to permit correlation between disease processes, changes in cells and tissues at the microscopic level and the manifestations of disease. Practical classes and tutorials in Molecular Basis of Disease B are aimed at amplifying and extending your understanding of the topics gleaned from attendance at lectures and reading of the recommended text, as well as correcting any misconceptions.

Practical and tutorial classes will reinforce the clinico-pathological correlations associated with each topic. They are intended to help you to acquire the ability to recognize the macroscopic and microscopic features of pathology specimens and to relate the pathology to clinical application. Macroscopic “pots” will be generally used in conjunction with projected microscopic slides, x-rays and other materials. Students will work collaboratively on interpretation of clinical problems and/or investigation results;

- 4) Learning is supported via Blackboard. Announcements, timetables, lecture slides and other resources will be made available during the course.

Prizes

Two prizes will be awarded for Molecular Basis of Disease B:

1. Best team performance in tutorial quizzes (based on both team and individual scores);
2. Best team performance in combination of mid-session and end of course exam.

Assessment

Students will undertake multiple forms of assessment during session:

- Online progress assessment x 2 5% (2x2.5%)
- Individual and team performance in tutorial quizzes 15% (6 x 2.5%)
- Mid-session examination (objective items + short answer) 10%
- Team project: poster and oral defence 20%
 - *Team member peer evaluation 5%*
 - *Academic staff evaluation 15%*
- Practical examination 10%
- Final examination (short answers) 40%

Team project: Poster and oral defence

Each team will be given a set of three (3) specimens, which illustrate pathological changes which may occur as a result of a particular disease or set of predisposing factors.

The students are to **create a poster which:**

1. Briefly describes the macroscopic specimens
2. Describes how the specimens are linked e.g. all 3 specimens may be related to the same cause or 2 specimens may be complications of a primary condition
3. Explains the underlying pathobiological mechanisms of the disease(s) present
4. Relates the pathobiological mechanisms to the clinical manifestations

Particular emphasis on explaining the pathobiological mechanisms should be made. Students should read their Robbins textbook and journal review articles.

Each group will have 15 minutes to present an **oral defence** of their poster. The spokesperson for the group (nominated by the students themselves) should deliver an overview of the poster in the first 2-3 minutes and

in the remaining time all members of each group must ‘defend’ their poster to a Department of Pathology staff member.

The aim of the group project is to provide an in-depth understanding of the pathobiological mechanisms of individual diseases. The project will encourage students to think critically and problem solve in order to determine the interrelatedness of pathological specimens. The presentation and oral defence will enhance students’ skills in effective communication and teamwork.

Guidelines for poster design, teamwork and study groups will be available on PATH3206 Blackboard.

SESSION II

- Week 2: Students allocated into groups of four or five students.
- Week 4: The specimens for the group project will be allocated to each group during practical class.
- Week 11: **Group poster due electronically no later than 5pm Monday 4/10/2010.** Posters must be submitted electronically as a PowerPoint slide, using the poster submission icon on the PATH3206 Blackboard website. In addition the text of the posters must be submitted as a separate, fully referenced Word document, using the Turnitin icon on the PATH3206 Blackboard website, no later than 5pm Monday 4/10/2010, (see Submission of Team project).
- Week 12: Team poster presentation and oral defence session.

Assessment criteria

Team member peer evaluation

Each student in the Team will complete an online evaluation form for each member of their Team. The student’s peer evaluation will be marked out of 5 and will contribute 5% of the final course mark. The mark will be an average of all the Team members’ assessments of the student. The Team member peer evaluation form is available for completion on the PATH3206 Blackboard website.

Team member peer evaluation form

Student name and student ID:

Team number:

Assessor’s name and student ID:

Place a cross in the appropriate mark box for each of the five criteria listed. Total the score at the bottom of the table. Please justify your marks in the comments section.

	0	0.5	1.0
1. Participation in the planning of the presentation			
2. Execution of allocated tasks effectively and on time			
3. Attendance to meetings called on by Team members			
4. Contribution to Team discussion			
5. Scientific quality of contribution			

TOTAL: /5

Comments:

Team poster and oral defence evaluation

Teams will be marked on their presentations by staff members from the Department of Pathology according to the following criteria:

- 1) The Team gives a macroscopic description of the three specimens and demonstrates an understanding of the interrelatedness of the specimens.
- 2) The Team demonstrates an understanding of the underlying pathobiological mechanisms leading to the disease(s) present in the specimens and relates these to the clinical manifestations.
- 3) The Team demonstrates an ability to utilize the current medical literature to support their arguments.
- 4) The poster shows a high standard of design and effectively communicates key concepts to the audience.
- 5) Team members answer questions clearly and directly.

The presentation will be marked out of 15 and will contribute 15% of the final mark for the course. For **each** of the above objectives, marks will be distributed as follows:

- | | |
|--|---|
| • Did not address the objective | 0 |
| • Attempted to address the objective but did not achieve satisfactory standard | 1 |
| • Satisfactorily addressed the objective | 2 |
| • Addressed the objective well | 3 |

Submission of Team project

Posters must be submitted electronically as a PowerPoint slide, using the poster submission icon on the PATH3206 Blackboard website **no later than 5pm Monday 4/10/2010**.

In addition the text of the posters must be submitted as a separate fully referenced Word document, using the Turnitin icon on the PATH3206 Blackboard website **no later than 5pm Monday 4/10/2010**. Figures, diagrams and tables used in the poster must also be referenced in the Word document. All posters will be assessed for plagiarism by use of Turnitin software. Please use the American Psychological Association (APA) referencing style (see http://info.library.unsw.edu.au/biomed/skills/direct/Info_Skills_Docs/apa/apa1.htm).

The PowerPoint slide and word document must have PATH3206 and the Team number in the filename eg PATH3206_Team1.ppt, PATH3206_Team1.doc

Late Team projects

Students will be penalised 5% of the mark for each day the poster is late. **Posters submitted later than 5pm Monday 11/10/2010 will receive a zero grade.**

Academic honesty and plagiarism

The Department of Pathology will not tolerate plagiarism in submitted written work. The University regards this as academic misconduct and imposes severe penalties. Evidence of plagiarism in submitted assignments, etc. will be thoroughly investigated and may be penalised by the award of a score of zero for

the assessable work. Flagrant plagiarism will be directly referred to the Division of the Registrar for disciplinary action under UNSW rules.

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

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.

The attention of students is drawn to the following extract from the website

<https://my.unsw.edu.au/student/atoz/plagiarism.html>:

"The basic principles are that you should not attempt to pass off the work of another person as your own, and it should be possible for a reader to check information and ideas you have used by going to the original source material. Acknowledgment should be sufficiently accurate to enable the source to be located speedily."

"The following are some examples of breaches of these principles:

- a) *Quotation without the use of quotation marks. It is a serious breach of these rules to quote another's work without using quotation marks, even if one then refers to the quoted source. The fact that it is quoted must be acknowledged in your work.*
- b) *Significant paraphrasing, e.g., several sentences, or one very important sentence, which in wording are very similar to the source. This applies even if the source is mentioned, unless there is also due acknowledgment of the fact that the source has been paraphrased.*
- c) *Unacknowledged use of information or ideas, unless such information or ideas are commonplace.*
- d) *Citing sources (e.g., texts) which you have not read, without acknowledging the 'secondary' source from which knowledge of them has been obtained."*

Appropriate citation of sources therefore includes surrounding any directly quoted text with quotation marks, with block indentation for larger segments of directly-quoted text. The preferred format for citation of references is an author-date format with an alphabetically arranged bibliography at the end of the assignment. Note that merely citing textbooks or website URLs is unlikely to yield a bibliography of satisfactory standard. ***The internet should be avoided as a primary source of information.*** Inclusion of appropriate journal articles, both primary research publications and reviews, is usually expected.

Tutorial Quizzes

There will be six quizzes held in the tutorial sessions consisting of 5 MCQs. Each tutorial quiz will be undertaken by the individual student and then by the team. Each individual quiz is worth 1.25% and each team quiz is worth 1.25%. Pre-reading for the quizzes is specified in the tutorial outlines of the manual (pp21-69).

Online progress assessments

Two online progress assessments (each worth 2.5% of the final mark) consisting of 15 MCQs and one short answer question, focusing on learning outcomes 1, 3 and 5, will be provided. These assessments are to be completed during the 10 days in which each is available (**assessment 1 will be available in week 6; assessment 2 will be available in week 10**). These assessments encourage independent and reflective learning as the student may attempt the assessment as often as they wish, within the time allowed, until they receive a satisfactory score (>90%). Students will receive 2.5% of the final mark for satisfactory completion of each assessment.

Mid-session examination

A mid-session exam in Week 9 (10% of the final mark) consisting of 15 MCQs and one short answer question, will be conducted. The examination will include material covered in Weeks 1-8 of PATH3206. The skills achieved by mastering the online progress assessment will be assessed in this exam. The short answer question is in preparation for the end of course exam.

Practical examination

A practical examination in Week 13 (10% of the final mark), will be conducted. This will consist of a series of stations each with questions based on material presented during the practical sessions and lectures.

Final written examination

A 2.5-hour end of course examination (40% of the final mark) which will comprise **four** short-answer / essay style questions. The questions assess all the learning outcomes, with at least one question testing students' ability to correlate clinical features with underlying pathogenetic mechanisms. This exam encourages an in-depth engagement with pathology within a clinical context. The questions vary in style; some questions may have two parts.

Missed exams

If in any circumstances you unavoidably miss an examination, you must inform the Registrar and also contact the relevant Course Office immediately. Normally, if you miss an exam (without medical reason) you will be given an absent fail. If you arrive late for an exam no time extension will be granted. It is your responsibility to check timetable and ensure that you arrive with sufficient time.

Supplementary examination

A supplementary examination may be awarded at the discretion of the Department of Pathology to students who have provided evidence for special consideration according to the UNSW guidelines. **It is intended that supplementary exams for this course will be held in the week commencing Monday 6th December.** The deferred exam may include a significant oral element. Students who believe that they are eligible for further assessment must contact Dr van Vliet to seek further information.

Medical certificates

If you miss any examination for medical reasons you must lodge a medical certificate with New South Q within **3 DAYS** (refer to UNSW Student Gateway@ www.student.unsw.edu.au for further details).

Attendance requirements

Attendance at tutorials and practical sessions is compulsory. An 80% attendance is required for you to be eligible to sit the final examination.

Course schedule

Integrated Timetable 2010

Week	Date	Time	Location	Lecturer	Title
2	28/7/2010	9	WW G2/G4	Dziegielewski	Practical – Revision of neoplasia
		10			
	30/7/2010	2	WW LG03	van Vliet	Lecture – Introduction to PATH3206
		3	Tutorial rooms	See allocation	Tutorial – Neoplasia
3	4/8/2010	9	WW G2/G4	Kumar	Practical – Histopathology of neoplastic tissues
		10			
	6/8/2010	2	WW LG03	Stewart	Lecture – Carcinogenesis I
		3	WW LG03	Stewart	Lecture – Carcinogenesis II
4	11/8/2010	9	WW G2/G4	van Vliet	Practical – Poster project
		10			
	13/8/2010	2	WW LG03	Hawkins	Lecture – Colorectal carcinogenesis I
		3	Tutorial rooms	See allocation	Tutorial – Carcinogenesis
5	18/8/2010	9	WW G2/G4	Hawkins	Practical – Colorectal carcinogenesis I
		10			
	20/8/2010	2	WW LG03	Champion	Lecture – Viral carcinogenesis
		3	WW LG03	Hawkins	Lecture – Colorectal carcinogenesis II
6	25/8/2010	9	WW G2/G4	Hesson/Ford	Practical – Colorectal carcinogenesis II
		10			
	27/8/2010	2	WW LG03	Kan	Lecture – Cervical carcinoma
		3	Tutorial rooms	See allocation	Tutorial – Colorectal carcinogenesis
Online Progress Assessment 1 with feedback					

7	1/9/2010	9	WW G2/G4	Kan	Practical – Cervical carcinoma
		10			
	3/9/2010	2	WW LG03	Dziegielewski	Lecture – Carcinoma of the breast and prostate
		3	Tutorial rooms	See allocation	Tutorial – Cervical carcinoma
Mid Session Break					
8	15/9/2010	9	WW G2/G4	Dziegielewski	Practical – Carcinoma of the breast and prostate
		10			
	17/9/2010	2	WW LG03	Velan	Lecture – Skin neoplasia
		3	WW LG03	Sewell	Lecture – Leukaemia and Lymphoma
9	22/9/2010	9	WW G2/G4	van Vliet	Mid Session Examination
		10	WW G2/G4	See allocation	Tutorial – Carcinoma of the breast and prostate
	24/9/2010	2	WW LG03	Dziegielewski	Lecture – Renal Disease
		3	WW LG03	Polly/DiGirolamo	Orientation to Honours
10	29/9/2010	9	WW G2/G4	Kan	Practical – Renal disease
		10			
	1/10/2010	2	WW LG03	Dziegielewski	Lecture – Liver disease
		3	Tutorial rooms	See allocation	Tutorial – Renal disease
Online Progress Assessment 2 with feedback					
11	6/10/2010	9	WW G2/G4	Dziegielewski	Practical – Liver disease
		10			
	8/10/2010	2	WW LG03	Champion	Lecture – Congenital disease
		3	WW LG03	van Vliet	Lecture – Upper GIT disease
12	13/10/2010	9	WW G2/G4	Kan van Vliet	Poster Presentation Session
		10	Hybrid 109/110	Kumar Champion	
	15/10/2010	2	WW LG03	Velan	Lecture – Cerebrovascular Disease
		3	Tutorial rooms	See allocation	Tutorial – Upper GIT disease
13	20/10/2010	9	WW G2/G4	Van Es/van Vliet	Practical – Practical Examination
		10			
	22/10/2010	2	WW LG03	Velan	Lecture – Alzheimers disease
		3	WW LG03	van Vliet	Lecture – PATH3206 wrap up and feedback

Expected resources for students

You are expected to acquire the following text:

Basic Pathology. 8th edition. V. Kumar, A.K. Abbas, N, Fausto & R.N. Mitchell (2007). Saunders & Co.

Students wishing to study the molecular biology or clinical features of diseases in greater depth might consider the purchase of the following text:

Robbins and Cotran Pathologic Basis of Disease. 8th edition. V. Kumar, A.K. Abbas & N. Fausto. (2009) Elsevier Saunders.

PATH 3206 Blackboard

Students enrolled in PATH3206 will be able to access the timetable, lecture notes and related information via [Blackboard](http://telt.unsw.edu.au): <http://telt.unsw.edu.au>

Images of disease database

This database is a collection of images used for teaching within the Department. The latest version is available on CD-ROM. The following information might help you understand more about the database program.

What you get

- A CD containing over 3000 images relevant to your study as an undergraduate. Many of these images represent specimens from the Museum of Human Disease, or histopathological images from the student histopathology slide sets. Accompanying x-rays and images of surgical and autopsy specimens are also available.
- A database that links them all together
- A user interface that lets you access the images in a variety of ways

What you do not get

- A collection of images that you can send to your friends, put in your magazines, put on the Internet or whatever other scheme seems clever at the time.

Many of the images used in this program are of a sensitive nature, and are intended for the purpose of private study by pathology students and graduates. You should exercise appropriate standards of professional ethics when using them.

- A program that will run on every computer
Your computer must meet the minimal requirements or you will have trouble.
- A high level of technical support
Unfortunately, it will be impossible for us to answer all your problems immediately, as we have very limited resources. We will of course make every effort to help, and will provide you with a listing of known problems and difficulties on request.

Interactive images of disease

This is a collection of “hotspotted” images from the Department’s database on the Museum of Human Disease page. Images containing clickable “hotspots” allow identification of the normal features and pathological changes within each specimen. At present this is a limited selection, intended for the education of senior high school students and interested members of the public. Hence the accompanying clinical histories, descriptions and comments are written in plain English, with an emphasis on the prevention of these diseases.

The Museum of Human Disease page contains links to some excellent undergraduate and postgraduate educational resources, of which we would encourage you to make full use.

The address is: “<http://web.med.unsw.edu.au/pathology/pathmus/>”.

The Museum of Human Disease

The Donald Wilhelm Museum of Human Disease is located on the ground floor of the Samuels Building (Building F25). Originally located on the 5th floor of the Wallace Wurth Building, it was established by Professor Donald Wilhelm, the Foundation Professor of Pathology at this university. Thanks to his foresight, and to the tireless efforts of Dr G. Higgins (the Museum Curator until 2004), the Museum has been meticulously maintained and updated over the years to reflect the changing patterns of disease in our society. The Museum contains over 2,700 specimens (or “pots”), which display diseased human tissue at the macroscopic level, usually preserved in formalin. Specimens are obtained both from organs removed surgically and from tissue obtained at autopsy, where the natural history of disease is in full view. **Please**

take note that some specimens of diseases which have become rare, e.g. diphtheria, are over 60 years old, and are irreplaceable. Each specimen is numbered and is accompanied by a clinical history (when known), a macroscopic description of the abnormalities displayed, and a histopathological description of changes at the microscopic level (where relevant). That information, specific to each of thirty areas (or “bays”), can be found in the Museum catalogues located in a bracket within each bay.

All the specimens in the museum are arranged in one or other of two major groups. One group comprises collections of specimens according to pathological processes such as congenital, inflammation and healing, vascular, neoplasia etc. The second group comprises collections of specimens under organ systems, such as cardiovascular, central nervous, renal etc. As responsible adults, we expect you to maintain decorum in the Museum, behave with care and respect for the integrity of the specimens, and help to keep the Museum tidy at all times. This means no eating or drinking in the Museum, and always returning specimens and catalogues to their allocated places. **Do not shake the pots!** This activity conveys no useful information, but often damages the specimens. If you discover that a specimen is leaking or broken, follow the instructions listed in the safety notice below. **Remember that the Museum is a precious learning resource, of which you are encouraged to make full use.**

Security in the museum

It is a crime under the Human Tissue Act to steal or mistreat material preserved in the Museum or practical class laboratories. Anyone who contravenes the Act will be prosecuted.

In order to protect the collection of specimens, access to the Museum is restricted for students in 3rd and 4th Year Medicine and PATH3206 during weekdays from 8 a.m. to approximately 8 p.m. The Museum is security locked, and can only be entered by using your student card to enable the doors to be opened. Mr Lansdown, Ms Hair and Mr Mitchell play a supervisory role during office hours. The Museum and practical class laboratories are under constant electronic surveillance.

Safety in the museum

- * Always handle museum specimens with care and respect. All specimens consist of generously donated human tissue.
- * The specimens are preserved in fixative solutions which contain a variety of toxic compounds:

Chemical	Percentage Composition
Glycerol	1.6 (v/v)
Saturated Camphor in Ethanol	0.16 (v/v)
Sodium Acetate	0.08 (w/v)
Formalin	0.16 (v/v)
Sodium Dithionate	0.25 (w/v)

- * For reasons of hygiene, never take food or drink into the museum.
- * Never leave a museum specimen on the floor, or in any precarious position.
- * If a specimen is leaking, turn it upside down to prevent further leakage, then immediately inform Mr Alan Mitchell or a member of academic staff.
- * If a specimen is broken, do not attempt to wipe up the spillage. Use the kitty litter provided in the central cupboards to absorb the fumes, then clear the area and immediately inform Mr Alan Mitchell or a member of academic staff.
- * Remember that the museum is here for your benefit - your cooperation in maintaining neatness and safety at all times is appreciated.
- * For more information on matters related to occupational and health safety policies of UNSW visit this web site. http://www.hr.unsw.edu.au/ohswc/ohs/ohs_home.html

Additional learning resources

In addition, there are many resources available on the web, which vary from simple patient information brochures to on-line pathology courses, to information on the latest research. Some general sites you may find useful are:

Medline Plus ('health topics' index of disease with information)

<http://www.nlm.nih.gov/medlineplus/healthtopics.html>

University of Iowa (on-line histological slides on many of the topics covered)

http://www.path.uiowa.edu/virtualslidebox/nlm_histology/

http://www.path.uiowa.edu/virtualslidebox/iowa_histopathology/index.html

The Cancer Council New South Wales

<http://www.nswcc.org.au/>

The NSW Cancer Institute

<http://www.cancerinstitute.org.au/>

National Cancer Institute

<http://www.cancer.gov/>

Research opportunities

Opportunities exist for all students wishing to undertake undergraduate and postgraduate research programs within the School of Medical Sciences. Information can be accessed via the Faculty of Medicine directory for the School of Medical Sciences at:

<http://medicallsciences.med.unsw.edu.au/somswweb.nsf/page/Research>

Course evaluation and development

Student evaluative feedback on the course is gathered each year using 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.

Course administration

Administrative and general problems related to your attendance, or the content and conduct of the course, can in the first instance be addressed by consulting Dr Christine van Vliet (c.vanvliet@unsw.edu.au) or Dr Mark Dziegielewski (m.dziegielewski@unsw.edu.au) by e-mail. Students wishing to see other members of staff should call in at the School office (ground floor) and **make an appointment** with the assistance of the staff. If students have difficulties of a personal nature, they should contact the School's Grievance Officer, Dr P. Pandey, or Prof Nick Hawkins, the Head of School.

Should you feel that there are particular circumstances that have affected your performance in the course; you should lodge an application for special consideration. The procedures involved in this are outlined in the UNSW Student Guide, and special forms are widely available on campus e.g. Student Health Centre, Student Centre.

Information on the different research units in the Department of Pathology and the research interests of each staff member is available at Department of Pathology's home page at

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

Official communication by email

All students in course PATH3206 are advised that email is the official means by which the School of Medical Sciences at UNSW will communicate with you. All email messages will be sent to your official UNSW email address (e.g., z1234567@student.unsw.edu.au) and, if you do not wish to use the University email system, you **MUST** arrange for your official mail to be forwarded to your chosen address. The University recommends that you check your mail at least every other day. Facilities for checking email are

available in the School of Medical Sciences and in the University library. Further information and assistance is available from DIS-Connect, Tel 9385 1777. The UNSW Library runs free email courses.

Student support services

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 at <http://www.studentequity.unsw.edu.au/disabil.html>. Issues to be discussed may include access to materials, note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made. Student Equity Officers (Disability) in the Student and Diversity Unit can be contacted on ph 9385 4734.

