



UNSW
THE UNIVERSITY OF NEW SOUTH WALES

Faculty of Medicine

School of Medical Sciences

PATH 3205

**Molecular Basis of Inflammation
and Infection
MBII
(6 UOC)**

SEMESTER I, 2013

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Course objectives

PATH3205 Molecular Basis of Inflammation and Infection builds on fundamental principles of human disease taught in PATH2201 Processes in Disease. This is achieved in PATH3205 by focusing on the underlying molecular basis or 'molecular mechanisms' of the disease process in humans. Core topics in Pathology are presented as themed 'Modules' and the 'Research Lecture and Laboratory Series' will use examples and 'state-of-the-art' research techniques that address these molecular mechanisms primarily in the context of Inflammation and Infection. Students will have opportunities for interactive learning and engagement in practical and research laboratory settings and upon course completion should have a better understanding of molecular mechanisms that underlie human disease and research topics in the areas of Inflammation and Infection.

Course staff

Department of Pathology, School of Medical Sciences

Dr P Polly (Course Convenor); patsie.polly@unsw.edu.au

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Consultation time: Tuesday 11-12pm

Dr C Herbert (Course Co-convenor); c.herbert@unsw.edu.au

Professor N Hawkins (Head of School)

Professor D Wakefield

Professor R Kumar

Professor A Lloyd

Professor M Grimm

A/Prof G Velan (Head of Teaching in Pathology)

A/Prof N DiGirolamo

A/Prof N Tedla

Dr S Thomas

Dr M Dziegielewski

Guest Lecturers and Tutors, Faculty of Medicine

A/Prof W Sewell

Dr R Bull

Dr C Herbert (Course Co-Convenor)

Dr F Lucani

Dr P Phillips

Dr J Post

Ms A Luo

Mr T Thai

Mr A Rajkumar

Mr A Shadie

Guest Lecturers, UNSW

Ms Gwyn Jones, Learning Centre UNSW

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 Patsie Polly (patsie.polly@unsw.edu.au) by e-mail. Students wishing to see other members of staff should make an appointment via e-mail. If students have difficulties of a personal nature, or with the course, they should contact the School's Grievance Officer, Dr P Pandey or Prof N 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://medicalsciences.med.unsw.edu.au/>

All students in course PATH3205 are advised that email is the official means with appropriate etiquette 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.

Course details

This course is offered during Semester I and counts for six units of credit (6OC). PATH2201/PATH2202 (Processes in Disease/Processes in Disease for Health and Exercise) are prerequisites for the course. It is also advantageous for students to have undertaken previous or concurrent study in ANAT3212 Research Methods in Microscopy, ANAT3231 Cell Biology, BABS3041 Immunology I.

Course aims

The course **PATH3205 Molecular Basis of Inflammation and Infection** aims to:

1. Promote understanding of the molecular basis of inflammation, responses to infection, allergy, autoimmunity, and diseases of the cardiovascular and respiratory systems. These concepts are introduced in the context of common human diseases or disease processes.
2. Relate the above concepts of processes in human disease to biomedical research via the '*Research Lecture and Lab Series*' which provides introductory yet start-of-the-art lectures on relevant areas of medical research, as well as associated laboratory-based workshops.
3. Develop oral and written communication skills which underpin dissemination of discoveries in human disease via medical research.

These aims will be achieved by specialist teaching of core concepts and research techniques by academic pathologists who are clinically and/or scientifically trained.

The course aims integrate molecular aspects of human disease into the context of histopathology and macroscopic specimens for each above mentioned disease topics. Furthermore, course aims mesh well with other disciplines including Anatomy, Biochemistry, Immunology, Microbiology, Pharmacology and Physiology.

Student learning outcomes

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

1. Describe the causes, pathogenetic mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, responses to infection, allergy, autoimmunity, and diseases of the cardiovascular and respiratory systems.
2. Work in collaborative teams to communicate concepts of disease in an oral presentation to non-specialist audiences.
3. Work independently to communicate, report and evaluate '*Research Lecture and Laboratory Topics*' in the written form by using specialist scientific journal articles and information from the *Research Lecture and Laboratory Series* and recording findings and interpretations in ePortfolios and as Laboratory Reports.
4. Understand the relevance of laboratory techniques in the diagnosis of human disease.

Learning and teaching rationale

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. PATH2201 Processes in Disease has introduced the fundamental concepts for the specific diseases to be addressed in PATH3205. This will involve more detailed discussion of recent advances in knowledge pertaining to the molecular basis of inflammation and infection, autoimmunity and both research and diagnostic techniques.

Future directions

The course complements PATH3206 *Cancer Pathology*, ANAT3212, BABS3041, PATH3207 *Musculoskeletal Diseases* and PATH3208 *Cancer Sciences: Research Design, Measurement and Evaluation* which is also run in the same academic year. 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 and medical research. 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. Furthermore, development of ePortfolios will assist students in understanding career pathways in medical research.

Teaching strategies

The course comprises of lectures, tutorials, practical classes, ‘*research lectures and laboratories*’ and assignments, which cover the general and specialist aspects of the molecular basis of disease.

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

- 1) A **collaborative, team-based approach** to learning. 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 and build your e-Portfolios.
- 2) A series of **lectures** introduce you to pathological processes, as well as specific examples of those processes affecting organs and tissues. The core lecture series focuses on specific diseases such as meningitis, HIV and diabetes. The tutorials are designed to be complementary to lectures and place these topics in the larger context of human disease. A list of aims and objectives is included for each lecture and tutorial, along with points for discussion and a list of suggested additional resources available on the web.
- 3) 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 and work collaboratively on interpretation of clinical problems and/or investigation results. Pre-reading will be assigned for each tutorial;
- 4) **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 Inflammation and Infection 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;
- 5) The course also includes several ‘*Research Lecture and Laboratory Series*’ topics that, as the name would suggest, focuses on the most recent research advances in molecular medicine. This section of the course is an innovation for the Department of Pathology and introduces the ‘world of medical research’ by way of specialist lectures that directly relate to research workshop laboratories; demonstrating ‘state-of-the-art’ molecular techniques that are key in disease diagnosis. We hope it will provide you with an exciting and challenging glimpse of current approaches in medical research. Learning is supported via Blackboard, Moodle and Mahara (e-Portfolios). Announcements, timetables, lecture slides and other resources will be made available during the course.

Prizes

Two prizes will be awarded for Molecular Basis of Inflammation and Infection:

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

Research experience

Opportunities exist for all students wishing to undertake undergraduate and postgraduate research program within the School of Medical Sciences. Information can be accessed via the directory for the School of Medical Sciences at: <http://medicallsciences.med.unsw.edu.au/research>

Assessment

The breakdown of assessments in the course is as follows:

Group presentation	20%
ePortofolios: LabBooks	10%
Individual and team performance in tutorial quizzes	15% (4 x 3.75%)
On-line progress assessments (x2)	5%
Practical Examination	10%
Final examination (2 hours)	40%

Group project (20%)

Students will work in groups to prepare a 15 minute PowerPoint presentation on a topic to be allocated in week 2, S1. Several one-hour sessions will be set aside for students to present their work to the rest of the group. One student from each group will be designated to deliver the presentation by random draw (so all students must come prepared), and the remaining students in the group will be responsible for answering questions relating to the presentation.

Prior to the formal student presentations, The Learning Centre will run two presentation skills sessions and a follow-up session. This is an important part of developing skills for the group project.

The group project will be assessed by peers and academics. The peer assessment mark will weigh 10% and the academic assessment mark will weigh 90% of the total mark for this assessment. Sample assessment forms are included below.

ePortofolios: LabBooks (10%)

Students will be required to complete questions based on research labwork within their ePortfolios. Completed laboratory reports must be returned to the BSB office (room G27, ground floor, Biological Sciences) in **week 12** by 12 noon on Wednesday 29th May. Topics will be allocated by a random draw. Late LabReports will attract a penalty of 10% of the report mark per week or part thereof.

The laboratory reports will be marked according to the following criteria:

- 1) Demonstrates an understanding of the topic and how it fits into the broader research area.
- 2) Demonstrates knowledge of research methodology and correct application of this to the research question.
- 3) Demonstrates an understanding of the limitations of the technology or model.
- 4) Directly addresses the question posed in the topic.

- 5) Demonstrates an ability to access the current medical literature to gain further information and utilise this in support of an argument.
- 6) Correctly uses references in the laboratory report and provides an appropriate reference list.

The report will be marked out of 20. For **each** of the above objectives marks will be distributed as follows:

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

In addition, up to 2 further marks may be awarded for a consistent and / or exemplary performance overall.

PATH3205 Group Presentations - Peer Assessment Form

Group No. AA

Topic Autoimmune haemolytic anaemia

Group members

XXX
XXX
XXX

Student Assessors (Group Y)

Name..... Sign.....

Name..... Sign.....

Name..... Sign.....

	0	1	2	3	4
Clear explanation of disease process					
Structure of content – introduction, logical flow, conclusions					
Effective use of PowerPoint to deliver presentation					
Ability to answer questions					
Overall impression					
Subtotal					
Total					

Comments:

PATH3205 Group Presentations – Academic Assessment Form

Group No. AA

Topic Autoimmune haemolytic anaemia

Group members

XXX

XXX

XXX

	0	1	2	3	4
Clear explanation of disease process					
Structure of content – introduction, logical flow, conclusions					
Effective use of PowerPoint to deliver presentation					
Ability to answer questions					
Overall impression					
Subtotal					
Total					
Comments					
Strengths					
Improvement					
Points for clarification (if necessary)					

Assessor: (sign). Date:

On-line assessments

(5%)

Students will be offered two online assessments during the course. These are to be completed **during the 10 days in which each is available (students will be notified in lectures when this will be)**. The assessments will include objective items in the same style as the final examination. Students may attempt the assessments as often as they wish within the time allowed until they receive a satisfactory score (>90%). The aim of these assessments is to provide students with feedback on their progress rather than to rank students. Students will receive 2.5% of the total mark for satisfactory completion of **each** of the assessments.

Individual and team performance in tutorial quizzes

15% (5 x 3%)

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 and work collaboratively on interpretation of clinical problems and/or investigation results. Pre-reading will be assigned for each tutorial;

Practical examination

(10%)

Students will complete a practical examination during the **final week** of term (scheduled into normal teaching time). This will consist of a series of 6 stations each with questions based on material presented during term. Students will rotate around the stations, spending 5 minutes per station.

Final examination

(40%)

Students will complete a two-hour written exam at the **end of session** that will contribute 40% of their overall mark. This will include objective items and five short answer questions. Some of the short answer questions may be directly from the Trial Examination Questions in the manual, the learning objectives or the on-line self-assessment. Marks will be weighted as follows:

Short answer	30%	(5 x 15 mins each)
Objective items	10%	

The short answer questions vary in style, but are intended to provide you with the opportunity to demonstrate your understanding of the topic and your ability to integrate ideas rather than simple “regurgitation of facts”.

Supplementary examination

If required, it is intended that supplementary exams for the School of Medical Sciences in Semester 1, 2013 will be held in the week commencing Monday 8th July, 2013. Special considerations sought outside the 3 day time period WILL NOT be accepted except in TRULY exceptional circumstances.

Academic honesty and 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

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 School of Medical Sciences will not tolerate plagiarism in submitted written work. The University regards this as academic misconduct <https://my.unsw.edu.au/student/academiclife/assessment/AcademicMisconduct.html> 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.

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

"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 the information and ideas that 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.

PATH3205 Course Timetable

NOTE: Changes in the timetable will be announced on Blackboard.

Week	Date	Time	Location	Lecturer	Title
1	Tue 5/3	9	CLB 4	Polly	Introduction to Molecular Basis of Inflammation and Infection ** presentation topics announced**
<i>Module: Infective Inflammation</i>					
		10	CLB 4	Lloyd	Viruses, hosts, and infectious diseases
	Fri 8/3	9 10-11 11-12	LG03 LG03 Teaching Labs: G2/G4	Luciani Bull Bull / Luciani	Hepatitis C – understanding the virus Hepatitis C and host immunity Hepatitis C - virology/immunology lab
2	Tue 12/3	9	CLB 4	Velan	Meningitis
		10	CLB 4	McNeil	Researching Rheumatoid Arthritis
	Fri 15/3	9 10-11 11-12	LG03 Tutorial rooms: G2/G4 106/108, 109/110, G2/G4	Jones/Polly Dziegielewski <i>see allocation</i>	Science communication I: Presentation and collaborative learning skills Museum Study Session 1 – Acute and Chronic inflammation Tutorial 1 – Acute and Chronic inflammation
<i>Module: Immune Responses in Inflammation, Asthma and IBD</i>					
3	Tue 19/3	9	CLB 4	Sewell	Molecular basis of allergy
		10	CLB 4	Kumar	Molecular basis of asthma
	Fri 22/3	9 10-12	LG03 Teaching Labs: G2/G4	Kumar Kumar/Herbert	Smoking and the lung <i>Asthma Research Lecture; Asthma Lab</i>
Mid Semester Break					
5	Tues 9/4	9	CLB 4	Grimm	Immune-mediated Bowel Diseases – Ulcerative Colitis and Coeliac Disease
		10	CLB 4	Grimm	<i>IBD Research Lecture</i>
	Fri 12/4	9-11 11-12	Teaching Labs: G2/G4 Tutorial rooms: 106/108, 109/110, G2/G4	Grimm/Lee/Luo <i>see allocation</i>	<i>IBD Lab</i> Tutorial 2 – Immune Responses in Inflammation eg. Allergy, Asthma and IBD
<i>Module: Disturbances of Immunity and Inflammation, HIV and Autoimmunity</i>					
6	Tues 16/4	9	CLB 4	Post	HIV, the virus and its effects - I
		10	CLB 4	Post	HIV, the virus and its effects - II
	Fri 19/4	9 10-12	LG03 Teaching Labs: G2/G4	Jones/Polly McNeil/Bryant	Science communication II: Presentation and collaborative learning skills <i>Rheumatoid Arthritis Research Lecture ; Rheumatoid Lab</i>
7	Tues 23/4	9	CLB 4	Wakefield	Autoimmune disease I
		10	CLB 4	Wakefield	Autoimmune disease II On-line assessment I
	Fri 26/4	9 10-12	LG03 Teaching Labs: G2/G4	Di Girolamo Di Girolamo	Stem Cells, Inflammation and Immunology Research Lecture Stem Cells Research Lab
8	Tues 30/4	9	CLB 4	Tedla	Mechanisms that terminate immune responses
		10	CLB 4	Dziegielewski	Renal Disease - Principles/Examples
	Fri 3/5	9-11	Teaching Labs: G2/G4	Wakefield/Tedla <i>see allocation</i>	<i>Practical class 1 - Autoimmunity</i> Tutorial 3 – HIV and Autoimmune disease

		11-12	Tutorial rooms: 106/108, 109/110, G2/G4		
<i>Module: Systemic Inflammation: Effects Research Team Presentations</i>					
9	Tues 7/5	9	CLB 4	Polly	Student presentations
		10	CLB 4	Polly	Student presentations
	Fri 10/5	9 10-12	LG03 Teaching Labs: G2/G4	Polly Polly	Inflammation and Musculoskeletal Effects- Cachexia Cachexia Research Lab
10	Tues 14/5	9	CLB 4	Polly	Student presentations
		10	CLB 4	Polly	Student presentations
	Fri 17/5	9 10-12	LG03 Teaching Labs: G2/G4	Phillips Phillips	Inflammation Effects-Pancreatitis and Pancreatic Cancer Pancreatic Disease Research Lab
11	Tues 21/5	9	CLB 4	Polly	Student presentations
		10	CLB 4	Polly	Student presentations <i>On-line assessment II</i>
	Fri 24/5	9 10-12	LG03 Teaching Labs: G2/G4	Thomas Thomas/Thai	Inflammation and Cardiovascular Effects Inflammation and Cardiovascular Research Lab:
12	Tues 28/5	9	CLB 4	Polly	Student presentations
		10	CLB 4	Polly	Student presentations <i>**Lab reports due 31/05/2013-G27 Biological Sciences**</i>
	Fri 31/5	9 10-11 11-12	LG03 Teaching Labs: G2/G4 Tutorial rooms: 106/108, 109/110, G2/G4	Kumar Dziegielewski <i>see allocation</i>	Cardiovascular Disease Examples and Complications Museum Study Session 2 –Cardio-respiratory Tutorial 4 – Cardiovascular disease
13	Tues 04/6	8	CLB 4	Polly/Jones	'Feedback'
		9	Tutorial rooms: 106/108, 109/110, G2/G4	Revision	Kumar
	Fri 07/6	9-12	106/108, 109/110, G2/G4	Polly	<i>** Practical examination **</i>

KEY:

Digirolamo	A/Prof Dr Nick Digirolamo	Inflammation and Infection Research Centre (IIRC;Pathology)
Dziegielewski	Dr Mark Dziegielewski	Department of Pathology, UNSW
Grimm	Prof Michael Grimm	Inflammation and Infection Research Centre (IIRC;Pathology);St George Hospital
Jones	Ms Gwyn Jones	The Learning Centre, UNSW
Kumar	Prof Rakesh Kumar	Department of Pathology, UNSW
Lloyd	Prof Andrew Lloyd	Inflammation and Infection Research Centre (IIRC;Pathology);
Polly	Dr Patsie Polly	Inflammation and Infection Research Centre (IIRC); Department of Pathology
Post	Dr Jeffrey Post	Prince of Wales Clinical School, UNSW and Prince of Wales Hospital
Sewell	A/Prof Bill Sewell	St Vincent's Hospital
Tedla	A/Prof Nicodemus Tedla	Inflammation and Infection Research Centre (IIRC;Pathology);
Thomas	Dr Shane Thomas	Department of Pathology, UNSW (CVR, Lowy; Pathology)
Velan	A/Prof Gary Velan	Department of Pathology, UNSW
Wakefield	Prof Denis Wakefield	Department of Pathology, Associate Dean-Faculty of Medicine, UNSW

Resources for students

You are expected to acquire the following text:

Robbins Basic Pathology, 9th edition. V. Kumar, A.K. Abbas and J. Aster (2012). Philadelphia PA; Elsevier Saunders.

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 and J. Aster (2009). Philadelphia PA; Elsevier Saunders.

PATH3205 Student Manual

The PATH3205 Student Manual clearly outlines the learning objectives for each tutorial topic and practical class. Although these learning objectives may not all be covered within a particular class it is imperative that you address each of these issues during your own period of study and revision. Trial examination questions are included where appropriate, so that you can assess your own progress by answering the question pertaining to the relevant topic at the end of each week.

The Pathology Manual contains a large amount of valuable information that will facilitate your study. In particular you should become familiar with the Glossary of Terms and the Table of Reference Ranges in Pathology.

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:

Centre for Disease Control (see especially 'health topics A-Z')
<http://www.cdc.gov/>

University of Utah (tutorials and images on many of the topics covered)
<http://library.med.utah.edu/WebPath/webpath.html#MENU>

Medline Plus ('health topics' index of diseases with information)
<http://www.nlm.nih.gov/medlineplus/healthtopics.html>

Other resources are indicated for some lectures in the PATH3205 Student Manual.

PATH 3205 Blackboard Module

Students enrolled in PATH3205 will be able to access the timetable, lecture notes and related information online via Blackboard (login with zPass):
<http://lms-blackboard.telt.unsw.edu.au/>

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 Medicine and PATH3205 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 Williamson and the Museum Technical Officer 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	Max. Percentage Composition
Glycerol	17 (v/v)
Pyridine	0.8 (v/v)
Sodium Acetate	7 (w/v)
Formalin	<2 (v/v)
Sodium Dithionate	0.4 (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 the Museum Technical Officer 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 the Museum Technical Officer 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 health safety policies of the UNSW visit the following web site. www.riskman.unsw.edu.au/ohs/ohs.shtml

Health and Safety

New Work Health and Safety Legislation commenced 1st January 2012. Many of the changes relate to the nationalisation of HS in Australia and will be gradually introduced

www.workcover.nsw.gov.au/formspublications/publications/Documents/model_work_health_safety_regulations_summary_key_changes_3489.pdf

Health and Safety Information can be found on the SoMS website:

<http://medicallsciences.med.unsw.edu.au/students/health-safety>

Medicine Teaching
Laboratory

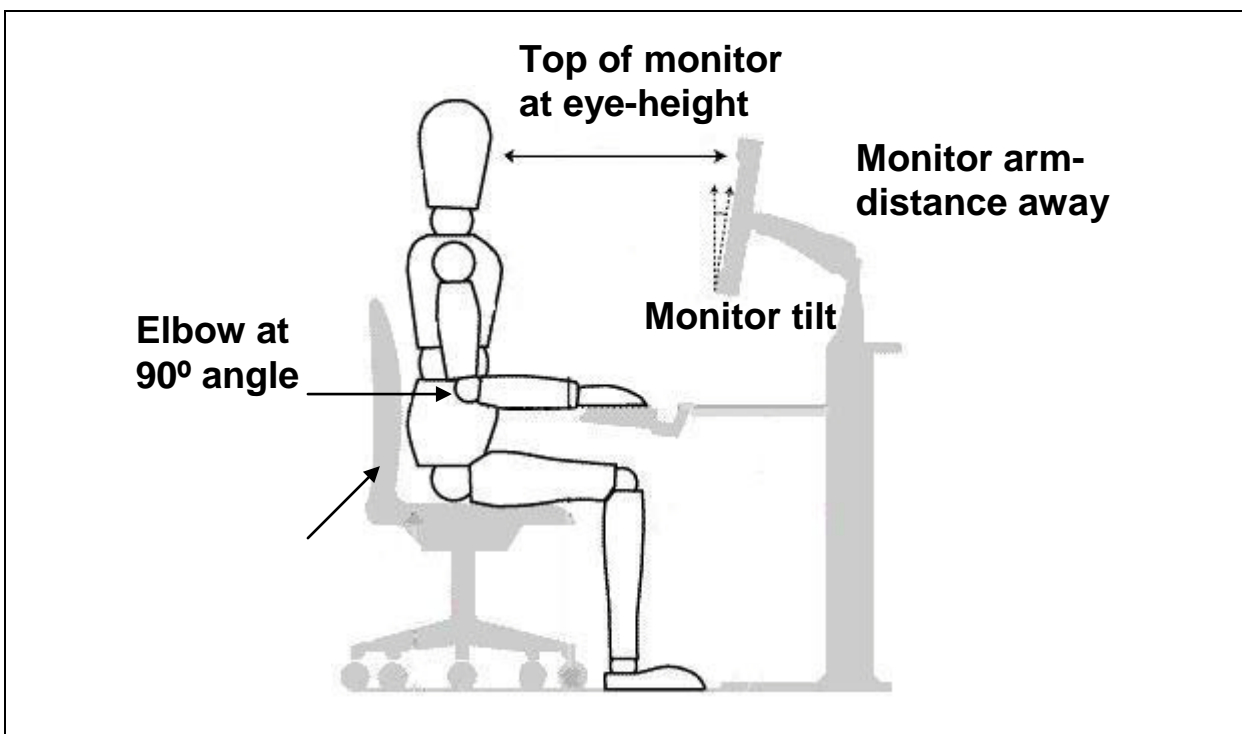
Student Risk Assessment



UNSW
THE UNIVERSITY OF NEW SOUTH WALES

Pathology practicals in
G2/G4 & 106/108 &
109/110 in Wallace
Wurth for PATH3205
MBII, 2012

Workstation set-up



Personal Protective Equipment

All pots contain real human tissue that has been generously donated to medical science and **must be treated with appropriate respect and dignity.**

Specimens are preserved in Perspex and contain a range of preserving chemicals that may be harmful. Chemicals used include **formalin, pyridine, sodium dithionate.** A full list of chemicals and associated MSDS information is available in the H&S Station and on the SoMS website.

MANUAL HANDLING OF POTS

It is recommended that all students wash their hands thoroughly as they leave practical class. Chemical residues may be present on pots.

Carry one pot at a time. Use two hands at ALL TIMES and support the base of pot.

Avoid rough handling and/or tilting of pots. This can cause leaking joints or tear tissue in specimen.

Limit the number of pots on a table at any one time.

SPILLS AND LEAKAGES

If a specimen is leaking or broken, do not attempt to wipe up the spillage. Clear the area and immediately inform the Museum Manager or a member of academic staff. A spill kit will then be used to absorb the fumes.

Emergency Procedures

In the event of an alarm, follow the instructions of the demonstrator. The initial sound is advising you to prepare for evacuation and during this time start packing up your things. The second sound gives instruction to leave. The Wallace Wurth assembly point is in the lawn in front of the Chancellery. In the event of an injury inform the demonstrator. First aiders and contact details are on display by the lifts. There is a first aid kit in the laboratory and the Wallace Wurth security office.

Clean up and waste disposal

Not necessary in these practicals.
No open-toe shoes allowed

Declaration

I have read and understand the safety requirements for this practical class and I will observe these requirements.

Signature:.....Date:.....
Student Number:.....

Date for review: 13/2/2013



Hazards	Risks	Controls
Physical Sharp plastic	'Stabbing' wound of hand	<ul style="list-style-type: none"> Use disposable gloves
Biological Antibody	Inoculation/Irritant	<ul style="list-style-type: none"> Do not eat, drink or smoke in the teaching laboratory Use disposable gloves
Chemical Acrylamide Azide ...PBS	Corrosive/Flammable Irritant/neurotoxic Irritant Mild Irritant	<ul style="list-style-type: none"> Low concentrations of chemicals used Use disposable gloves

Pipetting ergonomics

Pipetting is another work aspect that can cause aches and pains. Here are some handy hints:

- Adjust your chair or stool so that your elbow is at a 90° angle while pipetting.
- Adjust the height and position of sample holders, solution container, and waste receptacle so that they are all approximately the same.
- Try to work with your hands below shoulder height.
- Let go of the pipette from time to time and give the fingers/hand a break
- Do not twist or rotate your wrist while pipetting
- Use minimal pressure while pipetting
- Try to switch periodically between different types of work.

For more information on preventing repetitive strain while pipetting click on <http://www.anachem.co.uk/rsi>

Personal Protective Equipment required

 Closed in Footwear	 Lab. Coat optional	 Gloves	 Safety Goggles optional
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Emergency Procedures

In the event of an alarm sounding, stop the practical class and wait for confirmation to evacuate from demonstrators. Then wash your hands and pack up your bags.
Follow the instructions of the demonstrators regarding exits and assembly points.

Clean up and waste disposal

- Remove your gloves and dispose in the biowaste bins provided.
- Dispose of all pipette tips in the bin provided.

Ethics Approval

This type of practical does not require ethics approval.

Declaration

I have read and understand the safety requirements for this practical class and I will observe these requirements.

Signature:.....Date:.....

Student Equity Issues

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 www.equity.unsw.edu.au/disabil.html). Issues to be discussed may include access to materials, note-takers, the provision of services and additional examination and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made. Information on designing courses and course outlines that take into account the needs of students with disabilities can be found at:

www.secretariat.unsw.edu.au/acboardcom/minutes/coe/disabilityguidelines.pdf

Continual course improvement

Periodically student evaluative feedback on the course is gathered, using UNSW's Course and Teaching Evaluation and Improvement (CATEI) Process and in-house course evaluation questionnaires. These questionnaires are available on-line where students are requested to provide feedback on the course. Student feedback is taken seriously, and continual improvements are made to the course based in part on such feedback.

Administrative Matters

You may also meet the following members of the School support staff during the course of the year:

Ms Soo Han Chup

Position: Administrative Officer

Location: Room G3, Ground floor, Wallace Wurth Building

Ms Chup is responsible for the distribution of Pathology manuals and Images of Disease CD-ROMs to students, and will assist in arranging interviews with academic staff within the Department.

Mrs Carmen Robinson

Position: Administrative Officer

Location: BSB Office, Room G27, Biological Sciences Building

Ms Robinson is responsible for general administration and student support within the School of Medical Sciences.

Mr Fergus Grieve

Position: Web & TELT Administrator

Location: Room G3, Ground floor, Wallace Wurth Building

Mr Grieve is responsible for uploading resource to the PATH3205 Blackboard Module.

Mr Derek Williamson

Position: Museum Manager

Location: Room G04 Ground Floor Samuels Building, Building F25

Mr Williamson provides support for all undergraduate teaching programs. He plays a major role in broadening the use of the Museum of Human Disease by supervising an integrated learning program for senior high school students and community interest groups. Mr Williamson co-ordinates a network of volunteers, who assist with the supervision of visitors from outside the University. Contact Mr Williamson immediately if there are any broken or leaking specimens in the Museum.

Ms Julia Kiss/Mrs Ruth Miller/Ms Bridget Murphy

Position: Museum Education Officers

Location: Room G04 Ground Floor Samuels Building, Building F25

Ms Kiss provides support for all undergraduate teaching programs, and assists in delivering an integrated learning program for senior high school students and community interest groups.