



UNSW Course Outline

PATH3205 Molecular Basis of Disease - 2024

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General Course Information

Course Code : PATH3205

Year : 2024

Term : Term 1

Teaching Period : T1

Is a multi-term course? : No

Faculty : Faculty of Medicine and Health

Academic Unit : School of Biomedical Sciences

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate

Units of Credit : 6

Useful Links

[Handbook Class Timetable](#)

Course Details & Outcomes

Course Description

Molecular Basis of Disease - PATH3205 - is a course in Pathology that covers recent advances in understanding molecular mechanisms of acute and chronic inflammation, infection, allergy and autoimmune diseases. Detailed discussion of mediators of these processes, including cytokines

and growth factors are presented. The course is designed to engage learners by focusing on systemic pathology of various organs and tissues, with an emphasis on molecular pathogenesis. Practical lessons introduce 'state-of-the-art' research and diagnostic techniques.

Note: Students are advised that previous and concurrent study of Anatomy, Physiology, Biochemistry or Immunology would be an advantage.

Course Aims

The course **PATH3205 Molecular Basis of Disease** aims to:

1. Promote and apply an understanding of the molecular basis of systemic inflammation using examples from the cardiovascular system, immune responses to infection, allergy and autoimmunity. These concepts are introduced in the context of examples of common human diseases or disease processes and are fortified with recent developments in medical research.
2. Further develop and integrate oral and written communication skills, which underpin dissemination of discoveries in human disease and the relevance of medical research with assessment tasks and practical or tutorial lessons.
3. Identify and develop professional skills for future real-world application such as teamwork, critical thinking and reflective practice via assessment tasks and practical or tutorial lessons.

Relationship to Other Courses

Assistance with progression checking:

If you are unsure how this course fits within your program, you can seek guidance on optimising your program structure from staff at the [Nucleus Student Hub](#).

- Progression plans for UNSW Medicine and Health programs can be found on the [UNSW Medicine & Health website](#).
- Progression plans for UNSW Science programs can be found on the [UNSW Science website](#).

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.
CLO2 : Demonstrate capabilities in teamwork and communication within collaborative teams.
CLO3 : Discuss and debate state of the art research and concepts of disease.
CLO4 : Engage in research integrated learning and work integrated learning via mentorship by a research scientist.
CLO5 : Explain the relevance of laboratory techniques and analysing outcomes in the diagnosis of human disease.
CLO6 : Demonstrate and engage in teamwork, communication and reflective practice to evidence professional skills development within ePortfolios/reflective blogs.

Course Learning Outcomes	Assessment Item
CLO1 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.	<ul style="list-style-type: none"> • Research Impact Symposium • Final examination • Mid-term test • Individual and Team Performance in Tutorial Quizzes
CLO2 : Demonstrate capabilities in teamwork and communication within collaborative teams.	<ul style="list-style-type: none"> • Research Impact Symposium • Individual and Team Performance in Tutorial Quizzes
CLO3 : Discuss and debate state of the art research and concepts of disease.	<ul style="list-style-type: none"> • Final examination • Mid-term test • Research Impact Symposium
CLO4 : Engage in research integrated learning and work integrated learning via mentorship by a research scientist.	<ul style="list-style-type: none"> • Research Impact Symposium
CLO5 : Explain the relevance of laboratory techniques and analysing outcomes in the diagnosis of human disease.	<ul style="list-style-type: none"> • Final examination • Mid-term test • Research Impact Symposium
CLO6 : Demonstrate and engage in teamwork, communication and reflective practice to evidence professional skills development within ePortfolios/reflective blogs.	<ul style="list-style-type: none"> • Individual and Team Performance in Tutorial Quizzes • Research Impact Symposium

Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams | Echo 360

Learning and Teaching in this course

All course materials and course announcements are provided on the course learning management system, Moodle (or Open Access).

By accessing and using the ICT resources provided by UNSW, you are agreeing to abide by the ['Acceptable Use of UNSW ICT Resources'](#) policy particularly on respect for intellectual property and copyright, legal and ethical use of ICT resources and security and privacy.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Research Impact Symposium Assessment Format: Group	30%	Start Date: 12/02/2024 12:00 AM Due Date: Week 7: 25 March - 31 March
Final examination Assessment Format: Individual	40%	Start Date: Between 26 April - 9th May in T1 2024 Exam period Due Date: Between 26 April - 9th May in T1 2024 Exam period
Mid-term test Assessment Format: Individual	20%	Start Date: 14/03/2024 11:00 AM Due Date: 14/03/2024 12:15 PM
Individual and Team Performance in Tutorial Quizzes Assessment Format: Individual	10%	Start Date: See timetable Due Date: See timetable

Assessment Details

Research Impact Symposium

Assessment Overview

You will design a collaborative presentation to pitch a 'research problem or issue' from the last 15 years. The style of presentation is determined by the team. Styles include but are not limited to a traditional PowerPoint presentation, a short film, a panel discussion. This task addresses teamwork, research enquiry, critical thinking (reflective practice) and communication. Research on a disease topic with supporting medical research literature is required. You will be mentored throughout the course by researchers in the areas of immunology, infection and inflammation. You will be required to reflect and blog on these experiences.

The marks for the assessment task will be allocated as follows:

Assessment/Evaluation of content is worth 20% and is a group mark.

Team Peer and Self Evaluation on Team Roles and Contribution will be worth 5% and is an individual mark.

The ePortfolio / Research Experience blog will be worth 5% and is an individual mark.

Assessment outcomes will be posted in the learning management system.

Feedback on assessment progress will be given to each group by the mentor for research thinking and practice and via an interactive feedback workshop delivered by the academics within the course.

Course Learning Outcomes

- CL01 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.
- CL02 : Demonstrate capabilities in teamwork and communication within collaborative teams.
- CL03 : Discuss and debate state of the art research and concepts of disease.
- CL04 : Engage in research integrated learning and work integrated learning via mentorship by a research scientist.
- CL05 : Explain the relevance of laboratory techniques and analysing outcomes in the diagnosis of human disease.
- CL06 : Demonstrate and engage in teamwork, communication and reflective practice to evidence professional skills development within ePortfolios/reflective blogs.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course Moodle page.

Assessment Length

5 weeks

Submission notes

No short extension is available for this assessment task.

Assessment information

Use of generative AI: for planning assistance

Assignment submission Turnitin type

This is not a Turnitin assignment

Final examination

Assessment Overview

Examination assessing theoretical and practical content knowledge to be held in the official exam period. The examination will consist of a combination of short answer questions (SAQs) and multiple choice questions (MCQs). You will attempt this assessment as individuals during the end of term examination period. The exam assesses understanding of disease processes and their relevance to an underlying example of disease that has been covered throughout the course. Feedback can be provided on an individual basis if requested.

Course Learning Outcomes

- CL01 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.
- CL03 : Discuss and debate state of the art research and concepts of disease.
- CL05 : Explain the relevance of laboratory techniques and analysing outcomes in the diagnosis of human disease.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course Moodle page.

Assessment Length

2 hours

Submission notes

No short extension is available for this assessment task.

Assessment information

See Moodle announcements

Use of generative AI: No assistance

Assignment submission Turnitin type

Not Applicable

Mid-term test

Assessment Overview

A series of short answer style questions from the topics presented in the first half of the course will assess student understanding of pathological processes. The test will be scheduled approximately mid-way through the term. Assessment outcomes will be posted in the learning management system. Verbal feedback will be provided during class time after assessment outcomes are released

Course Learning Outcomes

- CL01 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.
- CL03 : Discuss and debate state of the art research and concepts of disease.
- CL05 : Explain the relevance of laboratory techniques and analysing outcomes in the diagnosis of human disease.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course Moodle page.

Assessment Length

1 hour

Submission notes

No short extension is available for this assessment task.

Assessment information

See Moodle announcements

Use of generative AI: No assistance

Assignment submission Turnitin type

Not Applicable

Individual and Team Performance in Tutorial Quizzes

Assessment Overview

Quiz assessing content knowledge.

You attempt this assessment at first as individuals and subsequently as teams. Half of the

marks are allocated to your individual attempt (5%) and half to the team attempt (5%). This forms the basis of collaborative learning for understanding complex molecular mechanisms and disease processes. You will be required to complete pre-reading and tutorial objectives prior to the tutorial. Therefore, quizzes in the tutorials will form the basis of the tutorial itself, thus encouraging a flipped classroom approach. Quizzes will take place every second tutorial as indicated in the course timetable. Verbal feedback is given once the quiz has been marked by the Tutor. Marks are given to you at the time of quiz completion.

Course Learning Outcomes

- CL01 : Describe and distinguish between the causes, pathogenic molecular mechanisms, macroscopic and microscopic appearances and clinical consequences of inflammation, immune responses to infection, allergy, autoimmunity, and effects of systemic inflammation on the body.
- CL02 : Demonstrate capabilities in teamwork and communication within collaborative teams.
- CL06 : Demonstrate and engage in teamwork, communication and reflective practice to evidence professional skills development within ePortfolios/reflective blogs.

Detailed Assessment Description

Detailed information about this assessment will be provided on the course Moodle page.

Assessment Length

Four quizzes, each for 10 minutes

Submission notes

No short extension is available for this assessment task.

Assessment information

See Moodle announcements

Use of generative AI: No assistance

Assignment submission Turnitin type

Not Applicable

General Assessment Information

Detailed instructions regarding assessments for this course are provided on the course Moodle page (or Open Learning).

For student information on results, grades, and guides to assessment see: <https://student.unsw.edu.au/assessment>

Grading Basis

Standard

Requirements to pass course

In order to pass this course students must:

- Achieve a composite grade of at least 50 out of 100
- Meet any additional requirements specified in the assessment details section and on Moodle.

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 12 February - 18 February	Lecture	Module 1, Lecture 2: Molecular basis of endothelial dysfunction - Research challenges
	Lecture	Introduction - Molecular Basis of Disease
	Lecture	Module 1, Lecture 1: Overview of cardiovascular disease - Unanswered questions in atherosclerosis
	Tutorial	Tutorial 1: Cardiovascular disease – Specimens and histology
	Online Activity	Science Communication I: Presentation and collaborative learning skills
Week 2 : 19 February - 25 February	Lecture	Module 1, Lecture 3: Clinical and pathological correlations of cardiovascular disease - Heart disease, strokes and more
	Lecture	Module 1, Lecture 4: Molecular basis of Lipid Transport
	Lecture	End of Module 1: Integration and feedback session
	Tutorial	Tutorial 2: Cardiovascular disease – Molecular basis *This tutorial has a quiz
	Laboratory	Practical class 1: Cardiovascular Dysfunction
Week 3 : 26 February - 3 March	Lecture	Module 2, Lecture 1: Overview of cancer related health problems - Inflammation and cancer
	Lecture	Module 2, Lecture 2: Clinical and pathological correlations of cancer - Primary tumour, metastasis and paraneoplastic syndromes
	Tutorial	Tutorial 3: Cancer and inflammation - Specimens and histology
	Online Activity	Science Communication II: Presentation and collaborative learning skills
	Group Work	Assignment Preparation - Meet ECR mentors to discuss the content for Research Impact Symposium
Week 4 : 4 March - 10 March	Lecture	Module 2, Lecture 3: Molecular hallmarks of cancer and cutting-edge treatment
	Lecture	Module 2, Lecture 4: Case study in tumour stromal interactions and future treatment - Pancreatic cancer
	Lecture	End of Module 2: Integration and feedback session
	Tutorial	Tutorial 4: Cancer and inflammation - Molecular basis *This tutorial has a quiz
	Laboratory	Practical class 2: Cancer cachexia
Week 5 : 11 March - 17 March	Lecture	Module 3, Lecture 1: Overview of the immune system and hypersensitivities
	Lecture	Module 3, Lecture 2: Molecular basis of allergy
	Lecture	Module 3, Lecture 3: Clinical and pathological correlations of asthma
	Tutorial	Tutorial 5: Allergy and other hypersensitivities – Molecular basis
	Assessment	Mid-term examination
Week 6 : 18 March - 24 March	Other	Flexibility week - no teaching activities
Week 7 : 25 March - 31 March	Assessment	Research Impact Symposium - Student presentations
	Laboratory	Practical class 3: Asthma
Week 8 : 1 April - 7 April	Tutorial	Tutorial 6: Autoimmunity and infections – Specimens and histology *This tutorial has a quiz
	Online Activity	Q & A session: Feedback on mid-term examination and RIS
Week 9 : 8 April - 14 April	Lecture	Module 4, Lecture 1: Autoimmunity (pre-recorded lecture)
	Lecture	Module 4, Lecture 2: Clinical and pathological correlations of autoimmune diseases
	Lecture	Module 4, Lecture 3: Pathogens in autoimmunity
	Tutorial	Tutorial 7: Autoimmunity and infections - Molecular basis
	Laboratory	Practical class 4: Autoimmune disease mechanisms
Week 10 : 15 April - 21 April	Lecture	Module 4, Lecture 4: Molecular basis of immune termination
	Lecture	End of Module 4: Integration and feedback session
	Tutorial	Tutorial 8: Revision and questions *This tutorial has a quiz

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

General Schedule Information

The times and locations of classes can be found on [myUNSW](#) under Class Timetable.

The expected engagement for all UNSW 6UOC courses is 150 hours per term. This includes lectures, tutorials, readings, and completion of assessments and exam preparation (if relevant).

Course Resources

Recommended Resources

Recommended resources for this course are provided on the course Moodle page.

Additional Costs

There are no additional costs associated with this course.

Course Evaluation and Development

Student feedback is taken seriously, and continual improvements are made to the course based, in part, on such feedback.

We use student feedback from myExperience surveys to develop and make improvements to the course each year. We do this by identifying areas of the course that require development from both the rating responses and written comments. Please spare a few minutes to complete the myExperience surveys for this course posted at the top of the Moodle page at the end of term.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Patsie Polly		Room 420, Level 4 Wallace Wurth Building	9385 2924	Wednesdays 2 - 3 PM	No	Yes
	Chaturaka R odrigo		Room 207, Level 2, Wallace Wurth Building	9385 2186	Mondays 11 - 12 PM	No	No

Other Useful Information

Academic Information

As a student of UNSW Medicine & Health you are expected to familiarise yourself with the contents of this course outline and the UNSW Student Code and policies and procedures related to your studies.

Student Code of Conduct

Throughout your time studying at UNSW Medicine & Health, you share a responsibility with us for maintaining a safe, harmonious and tolerant University environment. This includes within the courses you undertake during your degree and your interactions with the UNSW community, both on campus and online.

The [UNSW Student Code of Conduct](#) website provides a framework for the standard of conduct expected of UNSW students with respect to both academic integrity and your responsibility as a UNSW citizen.

Where the University believes a student may have breached the code, the University may take disciplinary action in accordance with the [Student Misconduct Procedure](#).

The [Student Conduct and Integrity Office](#) provides further resources to assist you to understand your conduct obligations as a student at UNSW.

Academic Honesty and Plagiarism

Academic integrity

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW staff and students have a responsibility to adhere to the principle of academic integrity, and ethical scholarship of learning is fundamental to your success at UNSW Medicine & Health.

Plagiarism, contract cheating, and inappropriate use of generative AI undermine academic integrity and are not tolerated at UNSW. For more information see the [Academic Integrity and Plagiarism toolkit](#).

In addition to the information you are required to review in your [ELISE training](#), UNSW Medicine &

Health strongly recommends that you complete the [Working with Academic Integrity](#) module before submitting your first assessment task.

Referencing

Referencing is a way of acknowledging the sources of information that you use to research your assignments. Preferred referencing styles vary among UNSW Medicine & Health disciplines, so check your course Learning Management System (e.g. Moodle or Open Learning) page for information on preferred referencing styles.

For further information on referencing support and styles, see the Current Student [Referencing page](#).

Academic misconduct and plagiarism

At UNSW, academic misconduct is managed in accordance with the [Student Misconduct Procedure](#). Allegations of plagiarism are generally handled according to the [UNSW Plagiarism Management Procedure](#). Plagiarism is defined in the [UNSW Plagiarism Policy](#) and is not tolerated at UNSW.

Use of Generative AI and other tools in your assessment

UNSW has provided guiding statements for the [use of Generative AI in assessments](#). This will differ, depending on the individual assessment task, your course requirements, and the course stage within your program.

Your course convenor will outline if and how you can use Generative AI in each your assessment tasks. Options for the use of generative AI include: (1) no assistance; (2) simple editing assistance; (3) planning assistance; and (4) full assistance with attribution.

You may be required to submit the original generative AI responses, or drafts of your original work. Inappropriate use of generative AI is considered academic misconduct.

See your course Moodle (or Open Learning) page for the full instructions for individual assessment tasks for your course.

Submission of Assessment Tasks

Short extensions and special consideration

Short extension

Commencing in Term 1, 2024, UNSW has introduced a short extension procedure for submission of assessment tasks. Not all tasks are eligible, and eligible tasks have a predetermined extension length. UNSW Medicine and Health have set School-level extension lengths for eligible assessment tasks. See your course assessment descriptions for more information.

Students must check the availability of a short extension in the individual assessment task information for their courses.

Short extensions do not require supporting documentation. They must be submitted before the assessment task deadline. No late applications will be accepted.

Late penalties apply to submission of assessment tasks without approved extension.

Special consideration

In cases where short term events beyond your control affect your performance in a specific assessment task you may formally apply for [Special Consideration](#) through myUNSW.

UNSW has a **Fit to Sit rule**, which means that by sitting an examination on the scheduled date, you are declaring that you are fit to do so and cannot later apply for Special Consideration. Examinations include centrally timetabled examinations and scheduled, timed examinations and tests managed by your School.

Important information relating to Short Extension and Special Consideration is available [here](#), including eligibility for Special Consideration, circumstances where students with Equitable Learning Plans can apply for Short Extensions and Special Consideration, and the appeals process.

Examinations

Information about the conduct of examinations in your course is provided on your course Moodle page.

Timed online assessment tasks

If you experience a technical or connection problem during a timed online assessment, such as a timed quiz, you can apply for Special Consideration. To be eligible to apply you need to contact

the Course Convenor and advise them of the issue immediately. You will need to submit an application for Special Consideration immediately, and upload screenshots, error messages or other evidence of the technical issue as supporting documentation. Additional information can be found on: <https://student.unsw.edu.au/special-consideration>

Other assessment tasks

Late submission of assessment tasks

UNSW has standard late submission penalties as outlined in the [UNSW Assessment Implementation Procedure](#), with no permitted variation. All late assignments (unless extension or exemption previously agreed) will be penalised by 5% of the maximum mark per calendar day (including Saturday, Sunday and public holidays).

Late submissions penalties are capped at five calendar days (120 hours). This means that a student is not permitted to submit an assessment more than 5 calendar days (120 hours) after the due date for that assessment (unless extension or exemption previously agreed).

Failure to complete an assessment task

You are expected to complete all assessment tasks for your courses. In some courses, there will be a minimum pass mark required on a specific assessment task (a “hurdle task”) due to the need to assure clinical competency.

Where a hurdle task is applicable, additional information is provided in the assessment information on your course Moodle page.

Feedback on assessments

Feedback on your performance in assessment tasks will be provided to you in a timely manner. For assessment tasks completed within the teaching period of a course, other than a final assessment, feedback will be provided within 10 working days of submission, under normal circumstances.

Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

Any variation from the above information that is specific to an assessment task will be clearly indicated in the course and assessment information provided to you on your course Moodle (or

Open Learning) page.

Faculty-specific Information

Additional support for students

The university offers a wide range of support services that are available for students. Here are some links for you to explore.

- The Current Students Gateway: <https://student.unsw.edu.au>
- Academic Skills and Support: <https://student.unsw.edu.au/academic-skills>
- Student support: <https://www.student.unsw.edu.au/support>
- Student Wellbeing, Health and Safety: <https://student.unsw.edu.au/wellbeing>

Mind Smart Guides are a series of mental health self-help resources designed to give you the psychological flexibility, resilience and self-management skills you need to thrive at university and at work.

- Mind Smart Guides: <https://student.unsw.edu.au/mindsmart>
- Equitable Learning Services: <https://student.unsw.edu.au/els>
- Guide to studying online: <https://www.student.unsw.edu.au/online-study>

Most courses in UNSW Medicine & Health use Moodle as your Learning Management System. Guidance for using UNSW Moodle can be found on the Current Student page. Difficulties with Moodle should be logged with the IT Service Centre.

- Moodle Support: <https://student.unsw.edu.au/moodle-support>

The IT Service Desk is your central point of contact for assistance and support with remote and on-campus study.

- UNSW IT Service Centre: <https://www.myit.unsw.edu.au/services/students>

Course evaluation and development

At UNSW Medicine & Health, students take an active role in designing their courses and their overall student experience. We regularly seek feedback from students, and continuous improvements are made based on your input. Towards the end of the term, you will be asked to participate in the [myExperience survey](#), which serves as a source of evaluative feedback from students. Your input to this quality enhancement process is valuable in helping us meet your learning needs and deliver an effective and enriching learning experience. Student responses are carefully considered, and the action taken to enhance educational quality is documented in the myFeedback Matters section of your Moodle (or Open Learning) course page.

School-specific Information

Laboratory or practical class safety.

For courses where there is a laboratory or practical-based component, students are required to wear the specified personal protective equipment (e.g., laboratory coat, covered shoes, safety glasses) indicated in the associated student risk assessments. The student risk assessments will be provided on the course Moodle page and must be read and acknowledged prior to the class.

Master of Science in Health Data Science courses

Courses in the Master of Science in Health Data Science are hosted through [Open Learning](#). Additional resources are available on the [Health Data Science Student Hub](#).

School Contact Information

School guidelines on contacting staff:

Course questions

All questions related to course content should be posted on Moodle (or Open Learning) or as directed by your Course Convenor.

In cases where email communication with course convenors is necessary, we kindly request the following:

- Use your official email address for any correspondence with teaching staff.

- We expect a high standard of communication. All communication should avoid using short-hand or texting language.
- Include your full name, student ID, and your course code and name in all communication.

Our course convenors are expected to respond to emails during standard working hours of Monday to Friday, 9am-5pm.

Administrative questions

If you have an administrative question about your program of study at the School please submit your enquiry online at [UNSW Ask Us](#).

Complaints and appeals

Student complaints and appeals: <https://student.unsw.edu.au/complaints>

If you have any grievances about your studies, we invite you to address these initially to the Course Convenor. If the response does not meet your expectations, you may then contact the School Grievance Officer, Prof Nick Di Girolamo (n.digirolamo@unsw.edu.au).

For MSc. HDS students: School Grievance Officer, Dr Sanja Lujic (s.lujic@unsw.edu.au), Centre for Big Data Research in Health