# PATH3209

## Clinical Immunology

Course Outline

**Term 3, 2022**

School of Medical Sciences

Faculty of Medicine & Health

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# 1. Staff

| Position | Name | Email | Consultation times and locations | Contact Details |
|---|---|---|---|---|
| Course Convenor | A/Prof Fabio Luciani | Luciani@unsw.edu.au | By appointment | Email |
| Co-convenor | A/Prof. Rowena Bull | r.bull@unsw.edu.au | By appointment | Email |
| Lecturer | Dr Alissa Kane | | By appointment | |
| Lecturer | Dr Brynn Weinstein | | By appointment | |
| Lecturer | A/Prof. Nicodemus Tedla | | By appointment | |
| Lecturer | Dr. Elissa Deenick | | By appointment | |
| Lecturer | Prof. Andrew Lloyd | | By appointment | |
| Lecturer | Prof. Cecile King | | By appointment | |
| Lecturer | A/Prof. Nadeem Kakoush | | By appointment | |
| Tutor Demonstrator | Mollie Boyd | | By appointment | |
| Tutor Demonstrator | Braulio Arroyo | | By appointment | |

# 2. Course information

Units of credit: 6
Pre-requisite(s): Prerequisite: BABS3041. Highly recommended PATH2201 and PATH3205

Teaching times and locations:
http://timetable.unsw.edu.au/2022/PATH3209.html

## 2.1 Course summary

This course will be beneficial to students wishing to pursue careers in the health sciences, especially medicine (in particular immunology, biomedical research or hospital-based laboratory work. An advanced understanding of clinical immunology should provide an effective framework from which to approach diagnosis and management of common clinical scenarios that you may well encounter in your future careers. The course covers the components of innate and adaptive immunity and their crosstalk, clinical and pathological basis of immunodeficiency, hypersensitivity disorders, autoimmunity, cancer immunology and infection immunity in clinical and research context such as immuno-diagnostics, immune-modulation and immunotherapy, systems immunology and big data immunology and vaccine immunology.

## 2.2 Course aims

PATH3209 introduces students to current concepts, clinical practice, and cutting-edge research in clinical immunology. This includes pathogenetic mechanisms of immunological disorders such as immunodeficiency, hypersensitivity reactions, autoimmunity, infection, cancer immunology, immunotherapy, systems immunology, big data analysis and vaccine designs.

The students will be encouraged to develop the following Graduate Attributes by undertaking the selected activities and knowledge content. These attributes will be assessed within the prescribed learning outcomes and assessment tasks.

1. An in-depth engagement with the relevant disciplinary knowledge in its interdisciplinary context.
2. The capacity for analytical and critical thinking, as well as for creative problem solving
3. The ability to engage in independent, team-based, and reflective learning
4. The skills of effective written and oral communication.

## 2.3 Course learning outcomes (CLO)

At the successful completion of this course you (the student) should be able to:

1. Explain how immunological investigations are employed to establish a clinical diagnosis.
2. Describe sensitivity and specificity of immunodiagnostic tools, in the diagnosis of immunological disorders, including genomics and data science.
3. Evaluate the impact of recent advances in clinical immunology to diagnose, treat and prevent autoimmune disorders, pathogens, and cancer, including the use of immunotherapy, genomics and big data.
4. Demonstrate effective written and oral skills in scientific communication.
5. Critique and evaluate cutting-edge scientific research relevant to clinical immunology.

## 2.4 Relationship between course learning outcomes and assessments

| Course Learning Outcome (CLO) | LO Statement | Related Tasks & Assessment |
|---|---|---|
| CLO 1 | Explain how immunological investigations are employed to establish a clinical diagnosis. | End of course written examination<br>Tutorial quizzes<br>End of course practical examination |
| CLO 2 | Describe sensitivity and specificity of immunodiagnostic tools, in the diagnosis of immunological disorders, including genomics and data science. | End of course written examination<br>Tutorial quizzes<br>End of course practical examination |
| CLO 3 | Evaluate the impact of recent advances in clinical immunology to diagnose, treat and prevent autoimmune disorders, pathogens, and cancer, including the use of immunotherapy, genomics, and big data. | End of course written examination<br>Tutorial quizzes<br>End of course practical examination<br>Progressive research project |
| CLO 4 | Demonstrate effective written and oral skills in scientific communication. | End of course practical examination<br>Progressive research project |
| CLO 5 | Critique and evaluate cutting-edge scientific research relevant to clinical immunology. | Progressive research project |

# 3. Strategies and approaches to learning

## 3.1 Learning and teaching activities

The learning and teaching philosophy underpinning this course is centred on you gaining core skills and developing an understanding of clinical immunology and of the molecular basis of immune dysfunction in disease. We aim to create an environment which interests and challenges you and create experiences oriented in learning how to solve problems. Students will have the opportunity to experience research-integrated learning via team research projects supervised by research focussed mentors, and with practical classes and online material directly complementing and supporting the lecture material. Additionally, effective learning will be enhanced through self-directed use of other resources such as textbooks, literature references and web-based sources. The intended learning outcomes are achieved through study of the common patterns of response(s) to disease, which are often referred to as pathological processes. In depth study of mechanisms and causes unique to the immune system are highlighted in context of the general pathological processes. To understand these

processes, you will draw on your knowledge of normal immunology, histology, biochemistry, physiology, general pathology, and cell biology.
Information regarding weekly activities will be available via Moodle and is weekly announced via Moodle. Announcements, timetables, lecture slides and other resources will be made available during the course.

**Lectures** Topics being covered each week can be found on the course timetable.

**Tutorials** You should attend one session per week, delivered face to face (or online for approved students) on Friday at 10am-12pm.

**Laboratory practical classes** You should attend the laboratory practicals to be held face to face on Thursdays 1 pm – 4 pm in weeks 3, 5, and 8. The practicals are a core part of your learning experience in the sciences.

**Team project** Students will be forming small group and in these they will conduct a research-oriented work. Teams will write a final report, due on Week 8.

**Group presentation** Students will give a group-presentation in Week 9 based on their team project. This activity will be online via Teams.

## 3.2 Expectations of students

Students are reminded that UNSW recommends that a 6 units-of-credit course should involve about 150 hours of study and learning activities. The formal learning
activities total approximately 50 hours throughout the term and students are expected (and strongly recommended) to do at least the same number of hours of additional study.

**Lectures** A series of lectures will introduce students to: specific examples of disease processes affecting the immune system; current advanced immuno-diagnostic tools; and cutting-edge research and clinical practice. These lectures will be delivered by campus-based and invited discipline experts.

**Tutorials** will be designed around team-based collaborative learning. These small group tutorials will include a series of topical quizzes to be completed individually and as a team. It is anticipated that students will have an enhanced learning experience using team-based learning and peer teaching. The tutorials are intended to extend and amplify students' understanding of material presented in lectures in an interactive format. Students will have opportunities to seek clarification on any aspect of the topics covered, as well as to address concepts that might be difficult to grasp. Each adaptive tutorial will be accessible via Moodle throughout the course.

**Laboratory practical classes** These face-to-face classes incorporate activities that are intended to allow students to apply their understanding of immunological processes and current immunodiagnostics in context of relevant clinical conditions. Hands-on immunological techniques and statistical analyses will be utilised to assess the clinical immunology areas of host-pathogen interaction, vaccines, autoimmunity, and cancer.
The practical classes and the following expert tutorials in Weeks 3, 5 and 8 will help you to achieve course learning outcomes. You need to complete any preparation work set prior to attending these classes. This might include prelab modules or reading of information sheets. Practical classes are aimed at amplifying and extending students' understanding of the topics

gleaned from attendance at lectures and reading of the recommended texts, correcting any misconceptions as well as introducing students to hands-on data acquisition, analysis, and interpretation. Hence, adequate preparation and active participation are essential.

**Team project** based on cutting edge topics in immunology, facilitated by one mentor per group, that includes submission of a written research project designed, and group presentations delivered by students working in small groups and assessed by student peers, mentors, and course conveners.
If you wish to contact the course convenors or staff, you can do so by e-mail or Microsoft Teams, using the details provided in section 1 of this document and on the course Moodle page. We are committed to providing the best experience and outcome for all students and will therefore endeavour to respond to e-mails as soon as possible, but please consider the following:

- Standard work hours are Monday to Friday from 8 am to 6 pm. E-mail correspondence received outside of this time may be dealt with from the next working day.
- All staff and students have busy schedules and multiple commitments, so while staff will endeavour to answer e-mail correspondence as quickly as possible, please apply appropriate expectations in this regard (i.e., within 48 hours and on a workday).
- Please only use Teams messaging to communicate with the course staff during class. Outside of class please use e-mail.
- All digital correspondence, including e-mail, Teams messages, and messages on discussion forums should be respectful, courteous, and polite.

To help us improve the course, please consider providing us with feedback by acting as a student liaison, and/or by completing the My Experience survey later in the term.

# 4. Course schedule and structure

This course consists of 44 hours of class contact hours. You are expected to take an additional 100 hours of non-class contact hours to review online topics (lectures), complete assessments and class preparation activities, and study and revision in preparation for exams.

| Week | Date | Time | Location | Lecturer | Class | Title |
|---|---|---|---|---|---|---|
| **1** | 12/09<br>Mon | 11-12 | MS Teams | Luciani / Bull | **Lecture** | Course orientation and prelude to student team projects |
| **Overview: Immunity, Immune Responses, Immunodeficiency** | | | | | | |
| **1** | 12/09<br>Mon | 1-2 | MS Teams | Bull | **Lecture** | Review of<br>Immunological memory, immunity |
| | 12/09<br>Mon | 2-3 | MS Teams | Luciani | **Lecture** | Immune responses: friends or foe? |
| | 13/09<br>Tue | 2-3 | MS Teams | Deenick | **Lecture** | Immunodeficiency |
| | 16/09<br>Fri | 10-12 | K-F23 - Mat 101<br>K-23 – Mat 230 | Tutors | **Tutorial** | Background knowledge<br>Online immunodeficiency |
| **Module 1 – Host defence and clinical implications – Lectures / Tutorial** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **2** | 19/09 Mon | 1-2 | MS Teams | King | **Lecture 1** | Immune response to pathogens and systemic inflammation |
| | 19/09 Mon | 2-3 | MS Teams | Lloyd | **Lecture 2** | Clinical implications of pathogen infection: from immunopathogenesis to treatment |
| | 20/09 Tue | 2-3 | MS Teams | Davenport | **Lecture 3** | Immunity and vaccines |
| | 23/09 Fri | 10-12 | KF23 - Mat 101 KF23 – Mat 230 | Tutors | **Tutorial/Quiz 1** | Systemic inflammation/immunodeficiency quiz ADD online SARS-2 immunity - |
| **Module 1 – Host defence and clinical implication for Immunity– Lectures / Tutorial** | | | | | | |
| **3** | 29/09 Thurs | 1-4PM | K-C27-116 - Wurth 116 | Bull / Luciani/ Demonstrators | **Laboratory** | Practical Lesson: Clinical cases of systemic inflammation |
| | 30/09 Fri | 10-12 | KF23 - Mat 101 KF23 – Mat230 | Tutors | **Tutorial** | Team presentation on clinical cases |
| **Module 2: Inflammation, Hypersensitivity (Innate) / Allergy – Lectures / Tutorial** | | | | | | |
| **4** | 03/10 Mon | 1-2 | **Public Holiday** | Tedla | **Lecture Pre-recorded** | Immunological basis of hypersensitivity and allergy |
| | 03/10 Mon | 2-3 | **Public Holiday** | Weinstein | **Lectures Pre-recorded** | Clinical aspects of allergy and hypersensitivity reactions |
| | 04/10 Tue | 2-3 | MS Teams | Alisa Kane | **Lecture** | Immunodiagnostics for hypersensitivity and autoimmunity |
| | 07/10 Fri | 10-12 | KF23 - Mat 101 KF23 – Mat 230 | Tutors | **Tutorial/Quiz 2** | Online Immunopathology – Autoimmunity |
| **Module 2: Inflammatory Hypersensitivity and Allergy – Lectures / Tutorial** | | | | | | |
| **5** | 13/10 Thurs | 1-4PM | K-C27-116 - Wurth 116 | Bull / Luciani Demonstrators | **Laboratory** | Practical Lesson: Common immunodiagnostics for allergy, hypersensitivity reactions and immunodeficiency |
| | 14/10 Fri | 10-12 | K-F23 - Mat 101 K-23 – Mat 230 | Tutors | **Tutorial** | Team presentation on clinical cases |
| **6** | 17 Oct - 23 Oct | | Flexibility week | No timetabled activities | | No timetabled activities |
| **Module 3: Immune Dysregulation in Autoimmunity and Cancer – Lectures / Tutorial** | | | | | | |
| **Week** | **Date** | **Time** | **Location** | **Lecturer** | **Class** | **Title** |
| **7** | 24/10 Mon | 1-2 | LG02/03 MS Teams | Luciani | **Lecture 1** | Overview of immune dysregulation |
| | 24/10 Mon | 2-3 | LG02/03 MS Teams | Kane | **Lecture 2** | Autoimmunity immunopathology and immune-phenotyping |
| | 25/10 Tue | 2-3 | LG02/03 MS Teams | Luciani | **Lecture 3** | Cellular and molecular basis of immunotherapy |
| | 28/10 Fri | 10-12 | K-F23- Mat 101 K-23 – Mat 230 | Tutors | **Tutorial/Quiz 3** | Quizzes Online tutorial |
| **Module 3 – Immune Dysregulation in Autoimmunity and Cancer – Lectures / Tutorial** | | | | | | |
| **8** | 03/11 Thu | 1-4PM | K-C27-116 - Wurth 116 | Bull / Luciani Demonstrators | Laboratory | Autoimmunity and Cancer: Immuno-pathology, immunotherapy, and current research Demonstration on flow cytometry |
| | 04/11 Fri | 10-12 | K-F23- Mat 101 K-23 – Mat 230 | Tutors | **Tutorial** | Team presentation on clinical cases |
| **Student Research Team Presentations, Course Review and End of Course Practical Exam** | | | | | | |

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|---|---|---|---|---|---|---|
| **9** | 07/11<br>Mon | 1-2 | K-G27-G04 -<br>PioneerTh<br>MS Teams | Bull / Luciani | **Student presentations** | **Team Project** – **Research Team** |
| | 07/11<br>Mon | 2-3 | K-G27-G04 -<br>PioneerTh<br>MS Teams | Bull / Luciani | **Student presentations** | **Team Project** – **Research Team** |
| | 8/11<br>Tue | 2-3 | MS Teams | Kakoush | **Lecture** | **The role of gut microbiome in immune response** |
| | 11/11<br>Fri | 10-12 | MS Teams<br>K-C27-LG02 -<br>WurthLG02 | Bull / Luciani | **Quiz 4**<br>**Student presentations** | Course knowledge Revision<br>**Team Project** - **Research** Team |
| **10** | 14/11<br>Mon | 1-2 | MS Teams | Bull / Luciani | **Lecture** | Briefing on practical and end of the year written exam |
| | 14/11<br>Mon | 2-3 | MS Teams | Bull / Luciani | **Lecture** | **Review of the course -** Feedback and Q&A |
| | 15/11<br>Tue | 2-3 | MS Teams | | Self-directed learning / study | |
| | 18/11<br>Fri | 10-12 | KF23 - Mat 101<br>KF23Mat230 | Bull / Luciani | Self-directed learning / study | Practical exam |

Exam Period: 25 November – 8 December
Supplementary Exam Period: 9 January – 13 January

# 5. Assessment

## 5.1 Assessment tasks

| Assessment task | Length | Weight | Mark | Due date and time |
|---|---|---|---|---|
| **Assessment 1:**<br>Tutorial quizzes | Variable | 15% | 100% | Weeks: 2, 4, 7 |
| **Assessment 2:**<br>End of course practical exam | 2 hrs | 15% | 100% | 18/11/2022<br>10AM -12PM |
| **Assessment 3:**<br>Progressive Research project | Variable | 20% | 100% | Weeks: 8 |
| **Assessment 4:**<br>End of course written examination | 2 hrs | 50% | 100% | |

**Assessment 1: Tutorial quizzes**
These tutorial quizzes are individual assessments and will comprise 15% of the final mark (3% for each of 5 individual quizzes). Each quiz contains 5 multiple choice questions, and the specific content and relevant pre-reading will be announced on the learning management system. Students are strongly advised to attend and review the lectures and perform the allocated pre-reading before the tutorial. The recommended pre- readings are only a guide, additional reading on the subject from the prescribed textbooks is highly recommended.

Students who performed poorly in 3 or more tutorial quizzes may receive individual feedback either face-to-face or online. The aim of this assessment is to provide timely feedback on student progress and provide them with remedial assistance if needed.

**Assessment 2: End of course practical exams**
Students will complete a written examination in week 10 focussing on the practical content delivered during the course. This will account for 15% of the final mark for the course. The exam will consist of a series of case studies, related to those covered throughout the course. Generalised course feedback will be provided.

**Assessment 3: Progressive Research project**
Progressive research project: This is a small group research work where students will submit a written research proposal on week 7 and present their proposal on weeks 9 and 10. The written research report and presentation are based on cutting-edge topics in clinical immunology that are organised, designed, delivered, and assessed by students working in small groups and facilitated by a designated academic mentor. This comprises 20% of the final mark. Of the 20%, 5% will be determined by members of the group, 5% by peer assessment and 10% will be allocated by two academic staff based on the submitted written paper and quality of the presentation. A detailed guide on the tasks involved and rubrics of the marking schemes will be provided in a form of a 1-hour presentation by the course convener on week 1.

**Assessment 4: End of course written examination**
At the end of the term there will be a written exam that accounts for 50% of the final mark for the course. The questions encourage an in depth understanding of immunology in a clinical and research context. The examination will consist of short answer questions and objective items. The short answer questions vary in style but are intended to provide students with the opportunity to demonstrate their understanding of the topic and their ability to integrate ideas rather than simple regurgitation of facts. Feedback will be given in the form of a final mark as part of the student end of course grade.

**Further information**
UNSW grading system: https://student.unsw.edu.au/grades
UNSW assessment policy: https://student.unsw.edu.au/assessment

## 5.2 Assessment criteria and standards

**Practical Classes**
Practical classes will reinforce the clinical and immunological correlations involved with each topic and introduce students to cutting-edge research in practice. They are intended to help students to acquire the ability to design, perform, acquire, analyse and interpret common immunodiagnostic procedures and familiarise students to current research practice in immunology. Demonstration videos and/or virtual laboratory simulations may be used in conjunction with wet laboratory experiments and clinical scenarios. Details regarding the assessment tasks will be provided to you during the introduction of the course in week 1, as well as being available on the course Moodle page.

**Team-Based Learning**
At the commencement of this course students will be divided into four tutorial groups and each tutorial group will be subdivided into two teams. The aim of this teaching approach is to enhance students learning experience using small group tutorials, teamwork, peer-teaching and peer-evaluations.

The role of the tutor is not to give students another lecture; but to facilitate interactive discussions and assist students to clarify some challenging concepts presented in the lectures, practical classes and/or textbooks. Students are therefore strongly urged to make adequate preparation for these tutorials and encouraged to participate. Attendance to all these tutorials is mandatory and is assessable.
Pre-reading will be allocated prior to each tutorial. Each tutorial will commence with a quiz (based on the pre-reading), which will first be attempted individually, and the answers submitted to the tutor. At the end of each quiz, the tutor will guide students through the answers, encourage discussion and provide clarifications regarding the challenging questions and concepts. Each tutorial will have additional team activities to be completed on a worksheet in the course manual. Please bring the course manual to all the tutorials and practical classes.
Students will receive a maximum of 5% towards their final course mark for each tutorial quiz. Over the course of 3 tutorials, this will contribute to 15% of the final mark. Additionally, these multiple-choice questions are representative of what students should expect in their final written exams and they will also provide the tutors and the course convenors critical information on how students are progressing with the course that would allow timely remedial intervention.
The names in each tutorial group and team will be posted on the Moodle course page and will be accessible via Teams. The same teams will work together for their team project and presentation.

**Team Project**
The team project includes a submission of a written research project proposal on an important research question in immunology modelled on the NHMRC Ideas Grant application as well an associated oral presentation modelled on the Shark Tank television series (i.e., pitching the research idea to expert judges [course convenors]). These tasks are aimed to enhance students' skills in teamwork, effective communication, and peer-review processes in line with learning outcomes 3, 4 and 5. Each group will be allocated a mentor (a researcher/academic in relevant fields) that will guide/advise them about the process throughout the term.
Teams will be allocated a mentor from a pool of researchers/academics Each group is then expected to immediately meet/communicate with their mentor to negotiate/select a suitable research project, map a work plan and set milestones. Teams will then meet regularly with their mentor for consultation and to discuss progress. The specific date, venue, agenda, and duration of each meeting with the mentor are at the discretion of the group and their mentor.
Students will submit one pdf copy via Turnitin© on Moodle, week 8. Only a single submission to Turnitin© is permitted. The word limit is 2000 words (±10%) (excluding tables, figures and figure legends, in-text citation, and the final reference list). If a submission exceeds the word limit, only the first 2200 words of the document will be examined. Late submission and/or inappropriately formatted document will not be accepted. The general guide on the written project is outlined below and an example of a written project will be posted on the Moodle course page.
In week 9, each team will give a 10-minute (maximum) talk pitching their research idea for funding. This will be followed by a 5-minute question time. Several one-hour sessions will be set aside for these activities. Presentation style is at the discretion of each group (examples include PowerPoint presentations, video, role play etc.). Teams can choose their spokesperson beforehand, although all students are expected to contribute equally, and poor performance by anyone may affect the team's overall score. At the end of the presentation, questions can be

asked to any member of the team by two judges (course convenors) and student peers in the audience.
This task is worth 20% of the final mark for the course. Components will be:
- 5% determined by members of the team, who will provide their collective score for each group member at the end of the submission of the written project and presentation,
- 5% will be determined by the mentor of the team and
-10% will be allocated by the two examiners for the written (5%) and oral presentation (5%) components of the project.
Detailed assessment criteria for each component of the project is described below.
The timetable for the presentation of the group projects will be posted on the Moodle course page. Attendance to all the presentations is mandatory. Students will lose 2% for each day they did not attend.

**Guide for the written team project**
The project has a maximum word limit of 2000 words. A recommended number of words are provided below for each section.
**Synopsis (max 250 words):** A summary of the project that includes brief introduction, explaining the research question and project rational, outlining aims, and describing the expected outcomes and significance.
**Background (700-1000 words):** This is a preamble to the hypothesis and aims of the project that should give a detailed account of published scientific investigations which are relevant to the project being undertaken. It should identify the limitations of the literature and/or areas of controversy and assess them critically. It should be adequately referenced with recent and appropriate studies and should have clear and logical flow.
**Hypothesis, aim(s) and methods (450 words):** This should include one hypothesis, maximum two aims and a brief description (list) of two to three relevant methods. The hypothesis and stated aim(s) should be derived from the literature review above and should be clear and valid. Methods are to be concisely and clearly summarised and to be appropriate for the stated aims(s).
**Expected outcome and significance (300 words):** This should include expected outcome(s) if the proposed studies/experiments were to succeed and provide an informed outline of the potential significance of the project in context of knowledge gain and/or impact on human health. The expected outcome(s) and significance statements should clearly relate to the introduction, hypothesis and aims of the project.
**References and referencing style (maximum 30 references):** The whole written manuscript should have a minimum of 20 and a maximum of 30 relevant references. Direct reference of the original research sources should be used whenever possible. The references should be within the text as follows: (Bolton and Kitamura, 1983) or 'Bolton and Kitamura (1983) showed that…'. When a paper written by two authors is cited, both names are given; for three or more authors only the first name is given, followed by 'et al.' References to unpublished observations or personal communications should be mentioned in the text only, and not included in the list of references. The reference list at the end of the manuscript must be arranged alphabetically according to the surname of the first author. When the names of first authors are identical, the alphabetical order of the surnames of subsequent authors takes precedence over the year of publication. The authors' names are followed by the year of publication in brackets. If more than one paper by the same authors in one year is cited, a, b, c, etc. are placed after the year of publication, both in the text and in the list of references. All authors should be quoted for papers with up to seven authors; for papers with more than seven authors, the first six should be quoted followed by et al.

The format for references to papers and books, and to chapters in books, is as follows:
Lipp P, Egger M & Niggli E (2002). Spatial characteristics of sarcoplasmic reticulum Ca2+ release events triggered by L-type Ca2+ current and Na+ current in guinea-pig cardiac myocytes. J Physiol 542, 383-393.
Adrian ED (1932). The Mechanism of Nervous Action. Humphrey Milford, London.
Buchan AMJ, Bryant MG, Polak JM, Gregor M, Ghatei MA & Bloom SR (1981). Development of regulatory peptides in the human fetal intestine. In Gut Hormones, 2nd edn, ed. Bloom SR & Polak JM, pp. 119-124. Churchill Livingstone, Edinburgh.
For those articles published on online ahead of print, that have not been assigned full publication details the DOI (digital object identifier) should be used. See example below:
Lipp P, Egger M & Niggli E (2002). Spatial characteristics of sarcoplasmic reticulum Ca2+ release events triggered by L-type Ca2+ current and Na+ current in guinea-pig cardiac myocytes. J Physiol; DOI: 10.1113/jphysiol.2001.013382.

## Team project assessment forms

**Marking scheme for a team member assessment (5%)**

Student being assessed: …….

Team number: …….

Names of the student assessors: ……
/10
Participation in the planning, writing and presentation of the project
Execution of allocated tasks effectively and on time
Attendance to meetings called on by group members
Contribution to group discussion
Scientific quality of contribution
Total

Comment on the specific components of the project undertaken by this student
……
……
……
……
……
…….

Signature student assessor 1: ……. Date: ……

Signature student assessor 2: ……. Date: ……

Signature student assessor 3: ……. Date: ……

Signature student assessor 4: ……. Date: ……

Signature student assessor 5: ……. Date: ……

## Marking scheme for mentors (5%)

**Topic:**

Mentor's name…… Team number……

| | /10 |
|---|---|
| Participation in the planning, writing and presentation of the project | |
| Ability to utilise the current medical literature to support proposal | |
| Attendance to meetings and execution of allocated tasks effectively | |
| Scientific quality and relevance of questions asked by the group to the mentor | |
| Addressed issues/comments/suggestions from the mentor | |
| Total | |

Comments:
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Signature: ……. Date: ……

**Marking scheme for assessment of the written research proposal (5%)**

**Team number and assessor's name:** ……..

| Criteria | Mark out of 10 for each marking criteria | | | | |
|---|---|---|---|---|---|
| | **0-4.9** | **5.0-6.4** | **6.5-7.4** | **7.5-8.4** | **8.5-10** |
| **Synopsis (10 x 1)** | Lack of basic information. | Major lack of key information. | Some key information missing. | Detailed and focused. | Very comprehensive, detailed, and focused. |
| **Background (10 x 2.5)** | Lack of significant detail in introduction. | Major lack of key basic information in introduction. | Some key basic information missing in introduction. | Detailed and focused introduction. | Very comprehensive, detailed, and focused introduction. |
| **Critical Analysis (10 x1)** | Lack of critical analysis of the literature presented. | Very limited critical analysis of the literature. | Limited critical analysis of the literature, mostly descriptive. | Some critical analysis of the literature. | Comprehensive critical analysis of the literature. |
| **Hypothesis and Aims (10 x 1.5)** | No hypotheses or aims apparent. | Hypotheses and aims not at all clear. | No clear hypotheses. Aims outlined but not justified. | Hypotheses and aims outlined and justified. | Hypotheses and aims clearly outlined and comprehensively justified. |
| **Methods (10 x 0.5)** | No experimental summary provided. | Experimental summary provided but not linked to hypotheses & aims. | Experimental summary partially linked to hypotheses & aims. | Experimental summary fully linked to hypotheses & aims but not justified. | Experimental summary fully linked to hypotheses & aims & justified. |
| **Significance Statement (10 x 1.5)** | No clear significance statements. | Poor description of the significance. No links to the proposal. | Description of the significance; poorly linked to the proposal and/or expected outcome. | Clear description of the significance; partially linked to the proposal and expected outcome. | Comprehensive description of the significance; clear link to the proposal and outcome |
| **References (10 x 1)** | Poor attempt to explore literature. | Significant over-reliance on reviews or textbooks. | Some over-reliance on reviews or textbooks. | Predominant use of primary articles but lack of more recent or seminal publications. | Predominant and comprehensive use of current and primary articles. |
| **Presentation (10 x 1)** | Major grammatical and spelling errors. | Major grammatical and spelling errors. Professional expression used. | Minor grammatical errors and minor spelling errors. Professional expression used. | Minor grammatical or spelling errors. Professional expression used and was supported with informative figures | No grammatical or spelling errors. Professional expression was used consistently and was supported with accurate, focused, and informative figures. |

**Comments:**

……

……

……

**Signature:** ……. **Date:** ……

**Marking scheme for assessment of presentation of the research proposal (5%)**

**Team number:** ……..

**Assessor's name:** ……

| | /10 |
|---|---|
| Demonstrate an understanding of the topic and the research question | |
| Effectively communicated the most important aspects of the proposal | |
| Demonstrate an ability to utilise the current medical literature to support proposal | |
| Showed competence in effectively formulating the hypothesis and aims of the proposal | |
| Clear and justified articulation of the significance of the proposal | |

**Comments:** ……

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**Signature:** ……. **Date:** ……

## 5.3 Submission of assessment tasks

**Late Submission**

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 day (including Saturday, Sunday, and public holidays). For example, if an assessment task is worth 30 marks, then 1.5 marks will be lost per day (5% of 30) for each day it is late. So, if the grade earnt is 24/30 and the task is two days late the student receives a grade of 24 – 3 marks = 21 marks.

Late submission is capped at 5 days (120 hours). This means that a student cannot submit an assessment more than 5 days (120 hours) after the due date for that assessment.

**Special Consideration**

If you experience a short-term event beyond your control (exceptional circumstances) that impacts your performance in a particular assessment task, you can apply for Special Considerations.

You must apply for Special Consideration **before** the start of your exam or due date for your assessment, except where your circumstances of illness or misadventure stop you from doing so.

If your circumstances stop you from applying before your exam or assessment due date, you must **apply within 3 working days** of the assessment, or the period covered by your supporting documentation.

More information can be found on the Special Consideration website.

## 5.4. Feedback on assessment

**Assessment 1: Tutorials quizzes**. At the end of each quiz, the tutor will give structured feedback on the answers.

**Assessment 2: Practical exams.** Feedback and an overview of the answers will be provided in the form of a post or podcast via the course Moodle page.

**Assessment 3: Research projects.** Marks will be provided via Moodle once the grading will be finalised.

**Assessment 4**: **Final examination**. Cohort feedback is provided once the exams are completed in the form of a post in Moodle

# 6. Academic integrity, referencing and plagiarism

**Referencing** is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas, or research. Not referencing other people's work can constitute plagiarism. *Please use Vancouver or APA referencing style for this course.*

Further information about referencing styles can be located at
https://student.unsw.edu.au/referencing

***Academic integrity*** *is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility, and courage.*[1] *At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.*

*Further information about academic integrity and* ***plagiarism*** *can be located at:*

- *The Current Students site* https://student.unsw.edu.au/plagiarism*, and*
- *The ELISE training site* https://subjectguides.library.unsw.edu.au/elise

*The Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student:* https://student.unsw.edu.au/conduct.

# 7. Readings and resources

Due to the cutting-edge nature of this course and the rapid advances made in the field of Clinical Immunology, a single primary text which adequately covers the content of this course has not been identified. Therefore, each lecturer will provide you with additional resources to supplement their lecture material. These resources will take the form of textbooks, journal articles or web-based resources. If available, links to the electronic form of these resources will be put on the course Moodle page.

Three textbooks have been identified that together cover the majority of the course content. These texts are available as online resources from the UNSW library. Students are expected to use the following texts:

Abul K Abbas, Andrew H Lichtman and Shiv Pillai. Basic Immunology: Functions and Disorders of the Immune System. 6th Ed. 2019. This textbook is recommended for students with limited exposure to immunopathology. It provides background on the immunopathology, clinical features and diagnosis of human diseases. Free access to a digital version is available through the UNSW library home page

Students who would like to study the clinical immunology in greater detail may wish to purchase the following textbook:

Janeway's Immunobiology 9th or 10th Edition,

Kenneth Murphy. 2017, Garland Science, Taylor & Francis Group, LLC. The print version of the text is also available by searching for Janeway's Immunobiology on the UNSW library home page. Print:

[1] International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

**10th**

*https://www.bookshop.unsw.edu.au/details.cgi?ITEMNO=9780393884913*

**9th**

https://www.bookshop.unsw.edu.au/details.cgi?ITEMNO=9780815345510

**Digital:**

*https://unswbookshop.vitalsource.com/products/-v9781315533247*

# 8. Administrative matters

Student enquiries should be submitted via student portal https://portal.insight.unsw.edu.au/web-forms/

# 9. Additional support for students

- The Current Students Gateway: https://student.unsw.edu.au/
- Academic Skills and Support: https://student.unsw.edu.au/academic-skills
- *Student Wellbeing and Health* https://www.student.unsw.edu.au/wellbeing
- UNSW IT Service Centre: https://www.myit.unsw.edu.au/services/students
- *UNSW Student Life Hub:* https://student.unsw.edu.au/hub#main-content
- *Student Support and Development:* https://student.unsw.edu.au/support
- *IT, eLearning and Apps:* https://student.unsw.edu.au/elearning
- *Student Support and Success Advisors:* https://student.unsw.edu.au/advisors
- *Equitable Learning Services (Formerly Disability Support Unit):* https://student.unsw.edu.au/els
- *Transitioning to Online Learning* https://www.covid19studyonline.unsw.edu.au/
- *Guide to Online Study* https://student.unsw.edu.au/online-study

# 10. Student Risk Assessment for practical classes
# Teaching Laboratories Risk Assessments

| | | |
|---|---|---|
| Teaching Laboratories<br><br>Student Risk Assessment | UNSW SYDNEY | Immunology practicals for PATH3209, 2022 in K-C27-116 - Wurth 116 at level 1, Wallace Wurth building. |

| Hazards | Risks | Controls |
|---|---|---|
| Students and staff participa ting in classes in the teaching spaces | Contraction of an infectious disease i.e., COVID-19 | All students and staff are to stay at home and not come to class if they are sick or if they have been advised to self-isolate because they are a close contact of somebody with COVID-19.<br><br>Personal Protective Equipment<br>• Staff and students will wear surgical or P2 masks in addition to other PPE required for the class. Masks can be disposed in general waste.<br>• Students should bring their own masks to class. Note that cloth masks should not be used.<br>Attendance:<br>• **If you feel ill before class do not attend.** Let the convenor know. You only need to lodge a special consideration if an assessment is missed. You do not need documentary evidence to support absences from any classes missed because of illness or isolation. Catch-up classes or remote learning activities may be offered. |
| **Ergonomics computing** | Musculoskeletal Pain | Correct workstation set-up. |
| **Ergonomics pipetting** | Repetitive strains | 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 https://www.anachem.co.uk/Protect-Yourself-from-RSI.* |
| **Electrical** | Electric shock/fire | Check electrical equipment in good condition before use. All portable electrical equipment tested and tagged. |
| **Physical**<br>Sharp pipette tips<br>Glass slides and cover slips | Stabbing wound of hands | Wear disposable gloves and PPE, dispose in sharps bins |
| **Biological**<br>Antibody<br>BSA<br>Human serum<br>Cell line<br>Human PBMC<br>Human whole blood | Inoculation | Do not eat, drink or smoke in the lab; wear disposable gloves and PPE; dispose waste in biowaste containers |

| | | |
|---|---|---|
| **Chemicals**<br>1% Formaldehyde<br>0.01% Azide<br>80% ethanol<br>PBS<br>1% bleach<br>Wright-Giemsa stain<br>1-4% paraformaldehyde | <br>Irritant<br>Irritant<br>Irritant/flammable<br>Mild irritant<br>Mild irritant<br>Irritant/flammable/toxic<br>Irritant/suspected carcinogen | Low concentrations of chemicals used; wear disposable gloves and PPE, including safety goggles |

**Safety measures during the practical class:**

| Personal Protective Equipment required | | | |
|---|---|---|---|
|  |  |  |  |

| 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.<br>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.<br>• Dispose of all pipette tips in the sharps bin provided.<br>• Dispose of all glass slides in the sharps bin provided.<br>• All microfuge tubes should be placed in the biohaxard bins. |

| Ethics Approval |
|---|
| • Practical classes require Ethics approval, ADD HERE . |

| Declaration |
|---|
| I have read and understand the safety requirements for the practical classes, and I will observe these requirements.<br><br>Signature:…… Date:……<br>Student number:…… |