



# Course Outline

OPTM3201

## Ocular Imaging and Applied Vision Science

Optometry and Vision Science

Faculty of Medicine & Health

Term 1, 2022

## 1. Staff

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Position	Name	Email	Consultation times and locations	Contact Details
Course Convenor	A/Prof Juno Kim	<a href="mailto:juno.kim@unsw.edu.au">juno.kim@unsw.edu.au</a>	Room 3.006 Rupert Myers Building (RMB)	By email
Professor	Prof Arthur Ho	<a href="mailto:a.ho@unsw.edu.au">a.ho@unsw.edu.au</a>	Email for appointment	By email
Senior Lecturer	Dr Maitreyee Roy	<a href="mailto:maitreyee.roy@unsw.edu.au">maitreyee.roy@unsw.edu.au</a>	Room 3.025 RMB	By email
Lecturer	Dr Nayuta Yoshioka	<a href="mailto:n.yoshioka@unsw.edu.au">n.yoshioka@unsw.edu.au</a>	Email for appointment	By email
Instructor	Dr Radha Govind	<a href="mailto:radha.govind@unsw.edu.au">radha.govind@unsw.edu.au</a>	Email for appointment	By email

## 2. Course information

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Units of credit: 6

Pre-requisite(s): VISN2111 – Ocular anatomy and physiology (undergraduate)

Teaching times and locations: Lecture 1: Monday 4 pm - 5 pm (Weeks 1-5 ONLINE); Lecture 2: Thursday 12 pm - 1 pm (Weeks 1-5, 8-10 ONLINE); Computer labs (2 hours per week in Old Main Building LG21).

The online timetable for this course can be found here: <http://timetable.unsw.edu.au/2022/OPTM3201.html>

### 2.1 Course summary

In the first two years of the vision science course, students gain a strong foundation in optics, perceptual systems and the psychophysical principles of vision science. This course teaches students how to apply this knowledge to solve important real-world problems in optometry, ophthalmology and vision science. Students learn to undertake lighting evaluation using the instrumentation of a fully functioning lighting measurement laboratory. Students learn to minimise important and common optical aberrations in optical dispensing by mastering the principles of computer-aided lens design. The ocular imaging component of this course applies foundation knowledge in anatomy, physiology and optical imaging skills to strengthen understanding of how ophthalmic structure can be imaged to infer visual function. Students learn how image analysis routines can be

implemented in software to enhance image structure for the objective and subjective assessment of human vision. These skills are important to understand the research and development lifecycle of ophthalmic imaging, which benefits technicians and clinicians, including optometrists and orthoptists.

**Note:** VISN1111, VISN1221 and VISN2211 are assumed knowledge for this course.

## 2.2 Course aims

This course aims to provide vision science students with opportunities to apply their foundation knowledge to solving real-world problems that are important in optometry and vision science, specifically relating to the optics of lens design, instrumentation, lighting evaluation, as well as ocular imaging and analysis.

## 2.3 Course learning outcomes (CLO)

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

1. Apply knowledge of lighting, surface reflectance and the measurement of illuminance and luminance (including radiometry, photometry and colorimetry) for real-world scenarios.
2. Describe processes involved in lens design, from design input and computer-aided design optimisation to design verification.
3. Devise ways of using common image processing and analysis routines used to enhance image content for improving visualisation and objective assessment of different ophthalmic structures.
4. Effectively communicate theoretical knowledge of ophthalmic imaging technologies and their uses for understanding visual function.

## 2.4 Relationship between course and program learning outcomes and assessments

The following table shows how each of the aforementioned learning outcome statements (each LO Statement) relates to program learning outcomes (PLOs) for the Bachelor of Vision Science (3181) and the Bachelor of Clinical Optometry (3182).

Course Learning Outcome (CLO)	LO Statement	Program Learning Outcome (PLO)*	Related Tasks & Assessment
CLO 1	Apply knowledge of lighting, surface reflectance and the measurement of illuminance and luminance (including radiometry, photometry and colorimetry) for real-world scenarios.	3181: [1, 2, 7] 3182: [6, 7]	<ul style="list-style-type: none"> <li>● Lighting evaluation assessment sheet</li> <li>● Final exam</li> </ul>
CLO 2	Describe processes and strategies involved in lens design, from design input and computer-aided design optimisation to evaluation of performance.	3181: [2, 3, 4, 5] 3182: [1, 6]	<ul style="list-style-type: none"> <li>● Lens design computer lab assignment</li> <li>● Final exam</li> </ul>
CLO 3	Devise ways of using common image processing and analysis routines used to enhance image content for improving	3181: [3, 4, 7] 3182: [1, 6, 7]	<ul style="list-style-type: none"> <li>● Report on image analysis and perception</li> </ul>

	visualisation and objective assessment of different ophthalmic structures.		<ul style="list-style-type: none"> <li>● Final exam</li> </ul>
CLO 4	Effectively communicate theoretical knowledge of ophthalmic imaging technologies and their uses for understanding visual function.	3181: [5] 3182: [1, 6]	<ul style="list-style-type: none"> <li>● Report on image analysis and perception</li> <li>● Final exam</li> </ul>

\* Numbers for Program Learning Outcomes (PLOs) correspond to PLOs of each degree listed in **Appendix A**.

### 3. Strategies and approaches to learning

#### 3.1 Learning and teaching activities

Students will be provided with lectures on lighting evaluation, the optics of lens design, image enhancement/analysis and imaging devices used for ophthalmic assessment. A combination of face-to-face and online lectures will be used to maximise student engagement. Practical classes will provide students with hands-on-experience in applying processes and concepts learned in lectures. Assessment tasks in the form of assignments will include a small field-work experiment on lighting and its measurement, a lab assignment on computer-aided design of optical systems, and a research report on the use of image processing/analysis tools to enhance ophthalmic images for clinical assessment. These assessments will ensure students are not just engaged learners, but are also actively involved in their learning during and outside of class.

#### 3.2 Expectations of students

<b>Expectations of Students</b>	<p>Students are required to attend all lectures (<b>online only</b>) and computer lab classes (<b>face to face in the optometry computer lab</b>) to maximise their opportunity to engage with lecturers, tutors and other students. Ongoing attendance to lectures will best enable students to acquire necessary knowledge to supplement computer labs. Attendance to computer lab classes is mandatory as it will ensure students take advantage of the valuable opportunities necessary to hone their skills through hands-on-experience in research techniques. Attendance in computer labs classes will also allow students to ask questions and engage with their mentor(s), who will be able to most effectively guide their learning and provide direct feedback to students on their progress.</p> <p>If you are an offshore student or unable to attend in-person laboratory classes due to travel restrictions or health concerns, please enrol in the special combined in-person/online group (Tuesday 4-6 pm) and email the Course Convener, Juno Kim, on: <a href="mailto:juno.kim@unsw.edu.au">juno.kim@unsw.edu.au</a>. All other lab groups are in-person only. In addition to the scheduled online lectures, you must also view and attend to the content provided in pre-recorded lectures during Weeks 7-10.</p> <p>For each of the relevant weeks, students are expected to view the online lectures (offered asynchronously or synchronously as required). Announcements will be made to alert students to whether each member of staff will be using synchronous teaching in lectures in addition to asynchronous posting of lectures. Students will have the opportunity to raise questions for brief discussion online through Moodle.</p>
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An optional online set of refresher lectures by Dr Grant Hannaford will be provided on Moodle for students to brush up on the assumed knowledge on key concepts in optics for engaging more effectively with the course.

Dr Nahian Chowdhury has also kindly provided a series of online lectures on statistics basics in R (see below), which is required viewing that will ensure you are ready for computer lab classes that will take you through the assessments.

You are expected to complete this review of statistical concepts during Week 1. This will also allow you time to install the R software package that will be used to analyse data collected for your research report that you will write up in later weeks.

The other components of this course are compulsory, and you are expected to attend/view the materials provided. The compulsory course components and justification for them are as follows:

- All ONLINE lectures in Weeks 1-10 will provide information not easily accessible from other sources.
- All computer lab classes (ON CAMPUS IN COMPUTER LABS) in this course must be attended because they act to reinforce theoretical components of the course.

Software to be used in this course

The following software packages will be installed on the computer laboratory PCs, and you are encouraged to install these software packages on your own device for convenience and to ensure you have multiple modes of access to resources where possible:

- R for statistics and analysis (<https://cran.r-project.org/>)
- Blender 3D Version 2.79 (<https://www.blender.org/>)
- Microsoft Word, Excel and Teams  
(<https://www.myit.unsw.edu.au/user/login?destination=/software-students>)
- Adobe Acrobat Reader (<https://get.adobe.com/reader/>)
- Zoom (<https://zoom.us/>)
- Zemax\* (<https://www.zemax.com/>)

\*The software licensing for Zemax (used in computer-aided lens design) will be directly associated with student zID and email information. Separate requests are required to be made to Zemax for each student. The information will be provided to Zemax before the end of Week 1 of Term 1 in 2022. If you have any questions about this licensing procedure, then please email Professor Arthur Ho and copy A/Prof Juno Kim.

The University uses email as an official form of communication for students. All UNSW students have their own email account. The School of Optometry and Vision Science will also make use of this form of communication.

It is extremely important that you know how to use your Zmail and ensure that you check it regularly. You are advised to link your official UNSW email address to your habitual email address (e.g., hotmail). You will miss out on vital information from the School and University if you do not check your Zmail.

For more information or if you are having connection or access problems, see:

### **IT Service Centre**

<https://www.myit.unsw.edu.au/>

Telephone: 02 9385 1333

Contact Us: <https://www.myit.unsw.edu.au/contact-us>

## 4. Course schedule and structure

This course consists of 4 hours of class contact hours per week. You are expected to take an additional hour of non-class contact per week to complete assessments, readings and exam preparation.

Week [Date/Session]	Topic [Module]	Activity [Learning opportunity]	Related CLO
Week 1	L1: Introduction to the course (JKim)	Learn about challenges for the subject matter and assessment requirements  <b><u>Zoom link for this lecture by JKim available through Moodle</u></b>	1,2,3,4
	L2: Lighting evaluation (NYoshioka)	Introduction to RPC Radiometry	1
	P1: Optics and statistics refresher (optional online through Moodle)	Revision of basic concepts on optics and statistics	NA
Week 2	L1: Image analysis and perception (JKim)	Photometry & Reflection of Light	3
	L2: Lighting evaluation (NYoshioka)	Measurement of lighting and luminance	1
	P1: Psychophysical study on lighting and imaging enhancement (JKim)	Designing and running a psychophysical experiment (part of the report assessment)	3
Week 3	L1: Lens design (AHo)	Principles and fundamentals for computer-assisted optical lens design	2
	L2: Lighting evaluation (NYoshioka)	Source of Optical Radiation Lighting Standards	1
	P1: Lighting practical 1	Photometry & Reflection of Light	1
Week 4	L1: Lens design (AHo)	Basic strategies and techniques for lens design configuration and optimisation	2
	L2: Lighting evaluation (NYoshioka)	Colorimetry 1	1
	P1: Lighting practical 2	Individual assessment on the measurement of environmental lighting	1

<b>Week 5</b>	L1: Lens design (AHo)	Implementation of computer-assisted lens design process and techniques using Zemax OpticStudio	2
	L2: Lighting evaluation (NYoshioka)	Colorimetry 2	1
	P1: Lens design practical 1	Computer aided lens design (Part 1)	2
<b>Week 6</b>			NA
<b>Week 7</b>	L1: Introduction to OCT (Asynchronous Online by CFEH, support: RGovind)	Optical Coherent Tomography <b>[TO BE POSTED ON MOODLE]</b>	4
	L1: Introduction to OCTA (Asynchronous Online by CFEH, support: RGovind)	Optical Coherent Tomography with Angiography <b>[TO BE POSTED ON MOODLE]</b>	4
	P1: Lens design practical 2	Computer aided lens design (Part 2)	2
<b>Week 8</b>	L1: Introduction to Wide-Field imaging and FAF (Asynchronous Online by CFEH, support: RGovind)	<b>[TO BE POSTED ON MOODLE]</b>	4
	L2: Optical Coherence Tomography A (MRoy)	Innovations in Optical Coherence Tomography (OCT) Part 1 <b>[CONNECTION TO BE ANNOUNCED]</b>	2,4
	P1: 3D Graphics and Rendering	Learn to use 3D graphical resources to generate images for virtual lighting simulations.	1,3
<b>Week 9</b>	L1: Interpretation of corneal imaging (Online by CFEH, support: RGovind)	Latest developments in ocular imaging	4
	L2: Optical Coherence Tomography B (MRoy)	Innovations in Optical Coherence Tomography (OCT) Part 2 <b>[CONNECTION TO BE ANNOUNCED]</b>	2,4
	P1: Computerised 3D Reconstruction	Use 3D graphical reconstruction for data visualisation	1,3
<b>Week 10</b>	<b>PUBLIC HOLIDAY</b>	<b>NO LECTURE CONTENT</b>	
	L2: Confocal microscopy (MRoy)	Approaches to confocal microscopy <b>[CONNECTION TO BE ANNOUNCED]</b>	2,4
	P1: Review of course material	Revision workshop + Sensory Processes Research Lab tour	1,2,3,4

<sup>1</sup> UNSW Virtual Handbook: <http://www.handbook.unsw.edu.au>

<sup>2</sup> UNSW Timetable: <http://www.timetable.unsw.edu.au/>

## 5. Assessment

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### 5.1 Assessment tasks

Task	Length	Weight	Due Date
<b>Assessment 1:</b> Lighting assignment sheet and quiz	The assessment will have two parts. Part 1: Submission of practical report (2%) Part 2: Moodle Quiz (In-class) (8%)	Combined total mark is equivalent to 10% of your final mark for the course.	Part 1: During lighting practical class 1 (Week 3) Part 2: During lighting practical class 2 (Week 4)
<b>Assessment 2:</b> Lens design assignment	The assessment will have two parts.	Combined total mark is equivalent to 20% of your final mark for the course.	Both parts due: Friday 8 <sup>th</sup> April; 23:59 Eastern Standard Time (End of Week 8)
<b>Assessment 3:</b> Image analysis and perception report	The assessment word limit is 800 words.	30% of your final mark for the course.	Friday 11:58pm (end of Week 9)
<b>Assessment 4:</b> Final theory exam	2 hours	40% of your final mark for the course.	Exam period.

#### Further information

UNSW grading system: [student.unsw.edu.au/grades](http://student.unsw.edu.au/grades)

UNSW assessment policy: [Assessment Policy](#)

UNSW assessment information: [student.unsw.edu.au/assessment](http://student.unsw.edu.au/assessment)



## 5.2 Assessment criteria and standards

The following criteria will be used to grade student responses to assessment tasks.

Assessment task	Grading criteria
<b>Assessment 1:</b> Lighting assignment sheet and quiz	Part 1: Appropriate measurement, recording, interpretation and discussion of photometric values/concepts Part 2: Accuracy of responses to the written questions.
<b>Assessment 2:</b> Lens design assignment	Degree to which the student's lens design satisfies the set of target requirements for the assessment task.
<b>Assessment 3:</b> Image analysis and perception report	Writing style, referencing style (where appropriate), choice of data to present, accuracy in reporting data and interpreting findings. A detailed rubric will be made available prior to students undertaking this assignment.
<b>Assessment 4:</b> Final theory exam	Accuracy of responses to examination questions.

## 5.3 Submission of assessment tasks

<b>Assignment Submissions</b>	<p>Assignments should be submitted via Moodle (electronic submission).</p> <p>This includes completed laboratory reports and logs which should be scanned/photographed and submitted via Moodle.</p> <p>If your assignment requires submission of a pair of glasses/contact lenses, these may be submitted via the Assignment submission box at the Student Enquiry office (North Wing, Rupert Myers Building, Room 3.003), however the accompanying report should be submitted via Moodle.</p> <p>Marked assignments can be collected from the:</p> <ul style="list-style-type: none"> <li>• School Enquiry office <b>during counter opening hours</b>. You must show a valid student card to do this.</li> </ul> <p>The School Policy on Submission of Assignments (including penalties for late assignments) and the Assignment Attachment Sheet are available from the School office (RMB3.003) and the School website at: <a href="https://www.optometry.unsw.edu.au/study/undergraduate-degrees/important-information-and-policies">https://www.optometry.unsw.edu.au/study/undergraduate-degrees/important-information-and-policies</a></p>
	<b>SCHOOL OF OPTOMETRY AND VISION SCIENCE, UNSW</b>

## SUPPLEMENTARY EXAMINATION INFORMATION, 2022

### SPECIAL CONSIDERATION

On some occasions, sickness, misadventure or other circumstances beyond your control may prevent you from completing a course requirement, such as attending a formal end of semester examination. In these cases you may apply for Special Consideration. **UNSW operates under a Fit to Sit/ Submit rule for all assessments. If a student wishes to submit an application for special consideration for an exam or assessment, the application must be submitted prior to the start of the exam or before an assessment is submitted. If a student sits the exam/ submits an assignment, they are declaring themselves well enough to do so.** The application must be made via Online Services in myUNSW. Log into myUNSW and go to My Student Profile tab > My Student Services > Online Services > Special Consideration and attach student's supporting documentation (such as a medical certificate).

### CHRONIC ISSUES AND PRE-EXISTING CONDITIONS

If you have chronic issues and pre-existing conditions, we recommend you apply for Educational adjustments for disability support through Disability Services.

Register for Equitable Learning Support (formerly Disability Support Services) at <https://student.unsw.edu.au/els/register>

Absence from a final examination is a serious matter, normally resulting in a Fail (FL) grade. **If you are medically unfit to attend an examination, YOU MUST CONTACT THE SCHOOL DIRECTLY ON THE DAY OF THE EXAMINATION TO ADVISE OF THIS** (telephone 02 9385 4639, email: [optometry@unsw.edu.au](mailto:optometry@unsw.edu.au)). You must also submit a Request for Special Consideration application as detailed on the UNSW website: <https://student.unsw.edu.au/special-consideration>

**It is the responsibility of the student to consult the web site or noticeboard to ascertain whether they have supplementary examinations. This information WILL NOT be conveyed in ANY other manner. Interstate, overseas or any other absence cannot be used as an excuse.**

This information will be available on the School web site at <https://www.optometry.unsw.edu.au/> (do not confuse the School website with the myUNSW website) and posted on the notice board on Level 3. This information will be available as soon as possible after the School Examination Committee meeting.

### SUPPLEMENTARY EXAMINATIONS FOR 2022 WILL BE HELD AS FOLLOWS:

#### FOR TERM 1:

- STAGE 1-4\* COURSES: WEDNESDAY, 18 MAY 2022 – FRIDAY, 20 MAY 2022
- THERE WILL BE NO SUPPLEMENTARY EXAMINATIONS FOR STAGE 5 STUDENTS IN TERM 1 2022

#### FOR TERM 2:

- STAGE 1-4 COURSES: WEDNESDAY, 31 AUGUST 2022 - FRIDAY, 2 SEPTEMBER 2022
- THERE WILL BE NO SUPPLEMENTARY EXAMINATIONS FOR STAGE 5 STUDENTS IN TERM 2 2022

#### FOR TERM 3:

- STAGE 5 COURSES ONLY: DURING THE WEEK OF MONDAY, 12 DECEMBER 2022 – FRIDAY, 16 DECEMBER 2022
- STAGE 1-4\* COURSES: WEDNESDAY, 14 DECEMBER 2022 - FRIDAY, 16 DECEMBER 2022

	<p>Supplementary examinations will be held at the scheduled time only. If students who are granted supplementary examinations do not attend, a failure will be recorded for that course. <b>Students should not make travel arrangements, or any other commitments, before establishing whether or not they have supplementary examinations. Ignorance of these procedures, interstate, overseas or any other absence will not be accepted as an excuse. But usual Special Consideration still applies.</b></p> <p>If additional assessment is not scheduled, this does NOT indicate whether or not a student has passed or failed the course. Results will be received in the usual way. Please do not contact the School in this regard.</p> <p>Please note the above applies to OPTM and VISN courses only. Any information on supplementary examinations for servicing courses (e.g. CHEM****) is the responsibility of the School conducting the course.</p> <p>* Stage 4 includes courses in the first year of the MClinoptom program.</p> <p style="text-align: right;"><b>School of Optometry and Vision Science, UNSW, 23 November 2021</b></p>
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[<sup>1</sup>UNSW Assessment Policy](#)

## 5.4. Feedback on assessment

Feedback on all assessment tasks will be provided in practical classes. Dates provided in the table below.

Task	Feedback		
	WHO	WHEN	HOW
<b>Assessment 1:</b> Lighting assignment sheet and quiz	Dr Yoshioka	Week 4	Moodle
<b>Assessment 2:</b> Lens design assignment	Prof Arthur Ho	Week 8	Moodle
<b>Assessment 3:</b> Image analysis and perception report	Dr Juno Kim	By start of Week 11	Moodle
<b>Assessment 4:</b> Final theory exam		End of exam period	Group feedback

## 6. Academic integrity, referencing and plagiarism

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**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.

Further information about referencing styles can be located at [student.unsw.edu.au/referencing](http://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.<sup>2</sup> 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 [student.unsw.edu.au/plagiarism](http://student.unsw.edu.au/plagiarism), and
- The *ELISE* training site [subjectguides.library.unsw.edu.au/elise](http://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: [student.unsw.edu.au/conduct](http://student.unsw.edu.au/conduct).

<sup>2</sup>International Center for Academic Integrity, 'The Fundamental Values of Academic Integrity', T. Fishman (ed), Clemson University, 2013.

## 7. Readings and resources

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### ***Lighting and illuminance evaluation***

Resources to be provided in class.

### ***Lens design***

- [1\*] Born, M. and E. Wolf, Principles of optics. Electromagnetic theory of propagation, interference and diffraction of light. 1999.
- [2\*] Emsley, H., Aberrations of thin lenses. 1956.
- [3\*] Synopsys Tutorial: <http://www.osdoptics.com/online-tutorial.html>
- [4\*] Welford, W., Aberrations of optical systems. 1986

### ***Optics and Imaging (acquisition, image processing and analysis)***

- [5\*] "Handbook of Optical Coherence Tomography", Edited by Brett Bouma and Tearney, Taylor & Francis.
- [6] Russ, J.C. (2011). *The Image Processing Handbook* (6<sup>th</sup> Edition), Taylor & Francis Group: FL
- [7] Gonzalez, R.C., Woods, R.E., Eddins, S.L. (2010) *Digital Image Processing using MATLAB* (2<sup>nd</sup> Edition). McGraw Hill (India).

Note: [ \* ] Indicates required/essential readings or resources. All others are references for further reading only. Additional suggestions for essential/further reading may be provided by the teaching staff as required. References on lens design [1-4] relate to chapters on Geometrical Optics and Third-Order Aberrations).

## 8. Administrative matters

### Required Equipment, Training and Enabling Skills

<b>Equipment Required</b>	This course won't require any specialist equipment. However, it would be very useful for students to have access to their own personal computer that can run Microsoft Windows 10 in their own time. Computers available in laboratories can be accessed throughout the week when not in use by teaching staff for other classes.
<b>Enabling Skills Training Required to Complete this Course</b>	<p>The UNSW Student Support website (<a href="https://student.unsw.edu.au/support">https://student.unsw.edu.au/support</a>) provides useful resources on a variety of topics, including time management, examination preparation, and oral presentations.</p> <p>For this course, students will have the opportunity to hone their writing skills when completing assessments. Useful information on writing can be found on the UNSW Student Support website:</p> <p><a href="https://student.unsw.edu.au/writing">https://student.unsw.edu.au/writing</a></p> <p>The Learning Centre also offers academic skills support to all students enrolled at UNSW (<a href="http://www.lc.unsw.edu.au">http://www.lc.unsw.edu.au</a>).</p> <p>All commencing UNSW undergraduate students are expected to have completed the ELISE quiz accessible via Moodle. More information on ELISE is available at: <a href="http://subjectguides.library.unsw.edu.au/elise/home">http://subjectguides.library.unsw.edu.au/elise/home</a></p>

### Course Evaluation and Development

Student feedback is gathered periodically by various means. Such feedback is considered carefully with a view to acting on it constructively wherever possible. This course outline conveys how feedback has helped to shape and develop this course.

<b>Mechanisms of Review</b>	<b>Last Review Date</b>	<b>Comments or Changes Resulting from Reviews</b>
<b>Major Course Review</b>	31 May 2021	The course has not formally undergone major course review. However, based on feedback from students in 2021, we have removed content formerly taught by Dr Juno Kim. New content on RPC has been included, which is considered to be valuable for the career development of both Optometry and Vision Science students.
<b>myExperience<sup>2</sup></b>	2021 Term 1	<p>The course experienced a major decline in student satisfaction in 2021, primarily due to its online delivery. In 2022, we have endeavoured to make considerable changes to the course to cater for student learning needs.</p> <p>Based on the feedback below, we have moved to make Computer Labs face to face for 2022. We will provide students an additional practice quiz after Week 6 that will be in the format of the final exam.</p> <p>We have also eliminated much of Dr Juno Kim's content and replaced it with Radiometry, Photometry and Colourimetry. This will ensure that the third report assessment can be structured more around lighting simulation and clinical assessment.</p> <p>Detailed instructions on all assessments were provided to students in 2021, but many students did not access content provided on Moodle. Greater care will be taken to provide further guidance in 2022 and ensure access to this material by students.</p>

	<p>As statistics is a core graduate outcome, it is assumed that students have this knowledge prior to commencing OPTM3201. However, Dr Juno Kim will also provide statistics help through optional drop-In “Ask Me Anything” workshops during term at a time convenient for students. Students collectively liked learning R and saw the benefits of this software package as graduates of UNSW, so it will continue to be used in 2022.</p> <p><u>Indicative comments for course improvement</u></p> <p>“Computer labs could not be held live, but reverting back to in-person for the labs could be useful.”</p> <p>“There were no quizzes apart from the one in week 2. While some might like and prefer courses without quizzes or a midterm, they are helpful for at least getting an idea about what the final exam is going to be like, what sort of questions will be asked, and what content should be focused on.”</p> <p>“The Research Report assignment was extremely confusing and time consuming. Dr Kim could have provided us with more assignment instructions beforehand.”</p> <p>“The third assessment was unreasonably difficult. The assignment also seemed to be quite an irrelevant assessment to the course content.”</p> <p><u>Overall scores on MyExperience evaluations for OPTM3201</u></p> <p>2021: “Overall I was satisfied with the quality of the course” (3.96 / 6.00)</p> <p>2020: “Overall I was satisfied with the quality of the course” (4.86 / 6.00)</p> <p>2019: “Overall I was satisfied with the quality of the course” (4.88 / 6.00)</p>
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<b>Work Health and Safety<sup>3</sup></b>	<p>Information on relevant Occupational Health and Safety policies and expectations both at UNSW and if there are any school specific requirements.</p> <p>Information on relevant policies and expectations is provided during General Safety Induction training. A copy of the Induction booklet distributed at this training is available from the School of Optometry and Vision Science office (RMB3.003) and the School website at: <a href="https://www.optometry.unsw.edu.au/about/information-and-policies/work-health-and-safety">https://www.optometry.unsw.edu.au/about/information-and-policies/work-health-and-safety</a></p>
<b>Equity and Diversity</b>	<p>Those students who have a disability or are dealing with personal circumstances that affect their study that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course Convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services (formerly Disability Support Services). Appointments with Equitable Learning Services are now being offered as video, phone and in person at the Kensington Campus. Contact ELS via Email: <a href="mailto:els@unsw.edu.au">els@unsw.edu.au</a> or <a href="https://student.unsw.edu.au/els">https://student.unsw.edu.au/els</a></p>

	Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.		
<b>Student Complaint Procedure<sup>4</sup></b>	<b>School Contact</b>	<b>Faculty Contact</b>	<b>University Contact</b>
	A/Prof Sieu Khuu <a href="mailto:s.khuu@unsw.edu.au">s.khuu@unsw.edu.au</a> Tel: 9385 4620	Professor Gary Velan <b>Senior Vice Dean, Education</b> Tel: 9385 1278	Student Conduct and Integrity Unit  Telephone 02 9385 8515,  Email: <a href="mailto:studentconduct@unsw.edu.au">studentconduct@unsw.edu.au</a>
<b>Psychology and Wellness<sup>5</sup></b>	<p>Information on Psychology and Wellness: <a href="https://student.unsw.edu.au/counselling">https://student.unsw.edu.au/counselling</a></p> <p>Telephone:</p> <p><b>Students in Australia:</b> 02 9348 0084 (Monday - Friday 9am-5pm) or 1300 787 026 (after hours)</p> <p><b>International students not in Australia:</b> +61 2 8905 0307 (any time of day or night)</p> <p><b>Students who visited Psychology and Wellness in 2021:</b> 02 9385 5418 (Monday - Friday 9am-5pm)</p> <p>Information on Psychology and Wellness (Formerly known as Counselling and Psychological Services) is available at: <a href="https://www.counselling.unsw.edu.au/">https://www.counselling.unsw.edu.au/</a> Tel: 9385 5418</p>		

<sup>2</sup>myExperience process: <https://teaching.unsw.edu.au/myexperience>

<sup>3</sup>[UNSW Work Health and Safety](#)

<sup>4</sup>[Student Complaint Procedure](#)

<sup>5</sup>[Psychology and Wellness](#)

## 9. Additional support for students

- The *Current Students* Gateway: [student.unsw.edu.au](http://student.unsw.edu.au)
- Academic Skills and Support: [student.unsw.edu.au/skills](http://student.unsw.edu.au/skills)
- Student Wellbeing, Health and Safety: [student.unsw.edu.au/wellbeing](http://student.unsw.edu.au/wellbeing)
- Equitable Learning Services (formerly Disability Support Services): <https://student.unsw.edu.au/els>
- UNSW IT Service Centre: <https://www.myit.unsw.edu.au/>