VISN1101

Seeing the world: perspectives from vision science

SEMESTER 2, 2014
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Faculty of Science - Course Outline

1. Information about the Course
NB: Some of this information is available on the UNSW Handbook.

<table>
<thead>
<tr>
<th>Year of Delivery</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Code</td>
<td>VISN1101</td>
</tr>
<tr>
<td>Course Name</td>
<td>Seeing the world: perspectives from vision science</td>
</tr>
<tr>
<td>Academic Unit</td>
<td>1st School of Optometry and Vision Science</td>
</tr>
<tr>
<td>Level of Course</td>
<td>1st year Undergraduate Core for Optometry and Vision Science Majors. General Education for non Optometry and Vision Science Majors.</td>
</tr>
<tr>
<td>Units of Credit</td>
<td>6UOC</td>
</tr>
<tr>
<td>Semester(s) Offered</td>
<td>Semester 2</td>
</tr>
</tbody>
</table>

Assumed Knowledge, Prerequisites or Corequisites
For students intending to take this course as a core component of an optometry or vision science major, HSC Mathematics is assumed knowledge. HSC Physics is recommended knowledge. Bridging Courses are available to students entering UNSW; these courses usually run in January - February, before the start of Semester 1. Students who do not have the appropriate assumed or recommended knowledge are strongly advised to undertake the relevant Bridging Course/s, or other appropriate preparation.

<table>
<thead>
<tr>
<th>Hours per Week</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Weeks</td>
<td>13 weeks</td>
</tr>
<tr>
<td>Commencement Date</td>
<td>Week commencing 28th July</td>
</tr>
</tbody>
</table>

Summary of Course Structure (for details see 'Course Schedule')

<table>
<thead>
<tr>
<th>Component</th>
<th>HPW</th>
<th>Time</th>
<th>Day</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture 1</td>
<td>1</td>
<td>2-3 pm</td>
<td>Thursday</td>
<td>OMB112</td>
</tr>
<tr>
<td>Lecture 2</td>
<td>2</td>
<td>3-4 pm</td>
<td>Thursday</td>
<td>OMB112</td>
</tr>
<tr>
<td>Tutorials</td>
<td>1 or 2 hours (varies week to week)</td>
<td>Group 1A or B, Mon 1-3 pm Group 2A Mon 3-5 pm Group 3A or B, Fri 11am-1pm Group 3C, Fri 1-3pm</td>
<td>OMBLG21 (Wks 2, 3, 5, 8, 9, 11, 12), Red4034 (Wks 6, 7)</td>
<td></td>
</tr>
<tr>
<td>Practical</td>
<td>1 or 2 hours (varies week to week)</td>
<td>Group 1A or B, Mon 1-3 pm Group 2A Mon 3-5 pm Group 3A or B, Fri 11am-1pm Group 3C, Fri 1-3pm</td>
<td>OMB25 (Wk3, 5) RMB2.009 (Wks 4, 6, 7, 9-12)</td>
<td></td>
</tr>
<tr>
<td>Workshops</td>
<td>Not every week, total of 8 hours over the whole course</td>
<td>GpCom1: Wk 1, Tues 11am-12pm GpCom2: Wk 1, Thurs 2-3pm GpCom3: Wk 2, Tues 10am-12pm GpCom4: Wk 3, Tues 10am-11am GpCom5: Wk 7, Thurs 2-4pm GpCom6: Wk 12, Thurs 2-4pm</td>
<td>See moodle ColombThC OMB112 OMB112</td>
<td></td>
</tr>
<tr>
<td>Other Activities</td>
<td>Clinical optometry and vision science (being a clinic patient)</td>
<td>3</td>
<td>According to clinic schedule</td>
<td></td>
</tr>
</tbody>
</table>

NB: It is preferable not to schedule a clinic appointment immediately prior to a chemistry laboratory class as your pupils may be dilated as part of the examination. For some students, the effect may persist. According to clinic schedule prior to Friday 12th September

1 UNSW Online Handbook: http://www.handbook.unsw.edu.au
Research in optometry and vision science (contributing to scientific knowledge by being a research participant)

Reflective online discussions

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>so that you are unable to focus at near without additional spectacle correction. If you find this is the case for you, we will have spare spectacles on standby to loan you to wear during your chemistry laboratory class underneath your safety spectacles.</td>
</tr>
<tr>
<td>3</td>
<td>At a mutual time for you and researchers</td>
<td>Prior to the Friday 24th October.</td>
</tr>
</tbody>
</table>

Prior to the Friday 24th October.

**Special Details**

- All classes (lectures, tutorials, practicals and workshops) are compulsory to attend. Attendance may be taken at any of these classes and a poor attendance record based on our record of your attendance may result in your exclusion from the final examination.
- Lab coat and safety glasses (such as those used in Chemistry) or spectacles will be required for the Week 3 practical.
- Personal communications to and from students are only permitted using UNSW Student email account.
- Punctuality is expected. Lateness for practical and tutorial classes may be recorded as an absence for that class, particularly when the formal introduction to the lab has been missed. For classes held in RMB2.009 (the preclinical lab), contact Dr Dale Larden ((385 4623) if you are running late so we know how to divide the students into groups.
2. Staff Involved in the Course

<table>
<thead>
<tr>
<th>Staff</th>
<th>Role</th>
<th>Name</th>
<th>Contact Details</th>
<th>Consultation Times</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Convenor</td>
<td></td>
<td>Dr Mei Ying Boon</td>
<td>9385 4621 <a href="mailto:m.boon@unsw.edu.au">m.boon@unsw.edu.au</a></td>
<td>Please contact by email to make an appointment</td>
</tr>
<tr>
<td>Additional Teaching Staff</td>
<td>Lecturers &amp; Facilitators</td>
<td>Dr Juno Kim</td>
<td><a href="mailto:Juno.kim@unsw.edu.au">Juno.kim@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr Sam Nona</td>
<td><a href="mailto:s.nona@unsw.edu.au">s.nona@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr Kirsten Challinor</td>
<td><a href="mailto:k.challinor@unsw.edu.au">k.challinor@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A/Prof. Barbara Junghans</td>
<td><a href="mailto:b.junghans@unsw.edu.au">b.junghans@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dr Lisa Asper</td>
<td><a href="mailto:l.asper@unsw.edu.au">l.asper@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td>Tutors &amp; Demonstrators</td>
<td>Same as lecturers</td>
<td>Contact the lecturer who designed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the tutorial by email</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical &amp; Laboratory Staff</td>
<td></td>
<td>Dr Dale Larden</td>
<td>Room 2.010, North Wing, Rupert</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Muyers Building, 9385 4623 or</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><a href="mailto:d.larden@unsw.edu.au">d.larden@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td>Guest staff</td>
<td></td>
<td>Ms Ola Ahmed</td>
<td><a href="mailto:Ola.ahmed@unsw.edu.au">Ola.ahmed@unsw.edu.au</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mr Andrew McKinnon</td>
<td>Through Dr Boon</td>
<td></td>
</tr>
</tbody>
</table>

3. Course Details

Course Description

After completing this course, you will never see the world the same way again. This course provides an overview of how the eyes and brain work together to enable visual perception. The overview includes an introduction to the structure and function of the human eye and visual brain. You will also learn about the professional pathways open to vision scientists and optometrists and how discoveries in optometry and vision science are used to improve vision and combat disease. The course also builds the graduate attributes required by vision scientists and optometrists by providing an introduction to research and communication skills including critical thinking, statistics, collaborative research and group presentation. It is the first course in the vision science major in the science or advanced science programs and in the optometry program. ([http://www.handbook.unsw.edu.au/undergraduate/courses/2013/VISN1101.html](http://www.handbook.unsw.edu.au/undergraduate/courses/2013/VISN1101.html))

Course Aims

The course aims to introduce the eye and visual system, visual perception and the professional context in which this understanding is applied in optometry and the vision sciences. Therefore, students will be introduced to clinical and research activities and have the opportunity to interact with a panel of optometrists and vision scientists. A complementary series of workshops and activities designed to develop UNSW graduate attributes, particularly in relation to group communications, teamwork and networks, presentations, critical writing, critical analysis, peer review and discipline literacy, will also be included. The course will provide students with the opportunity to develop a sense of identity and belonging with their colleagues, their program of study and their professional community. The course also aims to introduce students to research methods, focusing on evidence-based practice and basic statistics. This course is intended to equip students who intend on pursuing an optometry or vision science major to have the foundation skills for further study in this area. This course is also designed with the general studies student in mind, with the teaching of materials designed to highlight the relevance of what is studied to daily life for the non-specialist.

Student Learning Outcomes

- Overview of the visual system: after completion of these classes, you will know
  - The function and interrelationships between all the major components of the eye, extraocular muscles and the ocular adnexa.
  - The major features of the brain and visual brain

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3 Learning and Teaching Unit: Course Outlines
4 Learning and Teaching Unit: Learning Outcomes
The eye is part of the living body: after completion of these classes, you will know

- The laws by which the cells and systems of the body, and therefore the eye, work, how all the cells and tissues of the eye work together as a team to ensure effective vision.

Is the eye like a camera?: after completion of these classes, you will know

- How the eye captures, focuses, processes still and moving images.

Image processing: after completion of these classes, you will know

- What kinds of visual processing are undertaken by the brain which underlies visual perception

Research Methods: after completion of these classes, you will know

- How to be an evidence-based practitioner
- The research process and why we need statistics: the steps of research flowchart, generating and testing theories, hypotheses and their testing
- Characteristics of data, Z-scores
- The normal distribution
- Measures of central tendency (the mean, median, mode)
- Confidence intervals
- Types of hypotheses and testing a hypothesis
- The t-test

The following UNSW graduate attributes are nurtured in this class:

- Scholars who are capable of independent and collaborative enquiry.
- Scholars who are rigorous in their analysis, critique and reflection
- Scholars who are able to apply their knowledge and skills to solving problems
- Scholars who are capable of effective communication
- Professionals who are capable of lifelong learning.

After completion of the group communications classes, you

- Will be able to make observations about effective and ineffective group dynamics.
- Will be able to introduce yourselves and introduce others in one-on-one and group environments.
- Will be able to appreciate the value of networking
- Will gain insight into your own personality and how this may differ from or be similar to your classmates
- Will gain insight into your personality in context with others in your network and the importance of developing learning networks.
- Will gain insight into how you view the world and how others view the world
- Will gain insight into interview techniques for people who are older or younger than themselves
- Will gain insight into how people come to different opinions about the same material, group dynamics in ethics and decision-making
- Learn how to use De Bono’s Six Thinking Hats to strengthen collaboration skills
- The signs and symptoms of depression in yourself, friends, colleagues and patients (Class 4)
- Currently available treatments for depression (Class 4)
- How to help someone who is depressed (Class 4)
- About different career paths related to the study of optometry and/or vision science (Careers Panel)
- The interdisciplinary environment in which optometrists and vision scientists work (Careers Panel)
- Have gained a deeper understanding of the major issues confronting the professional practice of optometry and vision science. (Group presentation)
- Will have applied group communications skills and Edward De Bono’s Six Thinking Hats Toolkit (Group presentation)
- Will have developed working and friendship relationships. (Group presentation)

The UNSW graduate attributes which are nurtured in the group communication classes are as follows:

- Scholars who are capable of effective communication
- Scholars who are information literate
- Scholars who are digitally literate
- Scholars who are understanding of their discipline in its interdisciplinary context
- Scholars who are capable of independent and collaborative enquiry
- Scholars who are rigorous in their analysis, critique, and reflection
- Scholars who are able to apply their knowledge and skills to solving problems
- Scholars who are ethical practitioners
- Leaders who are collaborative team workers
- Professionals who are capable of operating within an agreed Code of Practice.
- Professionals who are capable of lifelong learning
- Professionals who are capable of independent, self-directed practice
- Global citizens capable of applying their discipline in local, national and international contexts
- Global citizens who are culturally aware and capable of respecting diversity and acting in socially just/responsible ways.

**Clinical Optometry and Vision Science (being a clinic patient):** After completion of this class, you will know:
- The clinical applications of knowledge of the vision sciences.
- More about your own visual system
- The importance of communication skills
- The range of responses people have to getting their eyes checked

The following UNSW graduate attributes are nurtured in this class:
- Scholars who are understanding of their discipline in its interdisciplinary context
- Scholars who are ethical practitioners
- Scholars who are capable of effective communication

**Research in optometry and vision science (contributing to scientific knowledge):** after completion of this class, you will:
- Know about some of the questions asked by vision scientists and learn about one method of answering one question.
- Appreciate the issues of ethics and informed consent first-hand.
- Understand the range of responses different people have to participating in vision science research

The following UNSW graduate attributes are nurtured in this class:
- Scholars who are ethical practitioners
- Leaders who are collaborative team workers
- Professionals who are capable of operating within an agreed Code of Practice
- Global Citizens who are culturally aware and capable of respecting diversity and acting in socially just/responsible ways

### Graduate Attributes Developed in this Course

<table>
<thead>
<tr>
<th>Science Graduate Attributes</th>
<th>Select the level of FOCUS</th>
<th>Activities / Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research, inquiry and analytical thinking abilities</td>
<td>3</td>
<td>Research Methods classes will equip you with the skills to understand what research is, what data is. You will have an individual written assignment where you practice applying these skills. You will also have a group presentation which requires you to conduct research and analytical thinking.</td>
</tr>
<tr>
<td>Capability and motivation for intellectual development</td>
<td>3</td>
<td>It is anticipated that any university course would develop intellectual skills, however this course will also provide classes on developing an understanding of the diverse motivations and aptitudes of individuals through group communications classes. You will be taught the big picture of the anatomical, physiological and psychological basis of seeing with some detailed examples to demonstrate principles. The curriculum has been designed in order to provide you with a professional framework around which you can fit this big picture understanding. The information will be professionally relevant.</td>
</tr>
<tr>
<td>Ethical, social and professional understanding</td>
<td>2</td>
<td>Three activities, being a clinic patient, contributing to scientific knowledge by being a research participant and the careers panel are designed to increase your professional understanding of the kinds of professional work which can result from a knowledge of vision science. The issue of ethics in both these professions will also be broached within tutorials, workshops and online activities.</td>
</tr>
</tbody>
</table>

discussions. The two-hour careers panel and discussion on the professional options for students taking this course will be held in Week 7 and involve a number of experts from the profession. The Executive Director of the NSW Division of the Optometrists Association of Australia and Dr Juno Kim will be co-hosting this panel. You are encouraged to provide questions in advance of the class and nominate the kinds of people you are interested in hearing from. The group presentations are designed to tackle a complex problem relevant to the two professions in the interdisciplinary context and would be useful for students who are optometry and vision science majors, taking this course as an elective or for general studies.

Communication

Specific classes and activities on communications will be held early in the session reflecting the importance of this skill. Excellent communication skills are an essential attribute for any optometrist, vision scientist or university graduate. The group activity and presentation will require existing, or the development of, good communication skills.

Teamwork, collaborative and management skills

Teamwork is an essential skill required both in optometry, the research world, the ophthalmic industry and as a university student. The optometrist and vision scientist may be an important leader in a wider team. The group activities and presentations will necessitate good teamwork and collaboration.

Information literacy

An important component of this course is to develop your information literacy skills. A vision scientist will need to keep up to date with important developments in the scientific field, whilst an optometrist will need to know the latest in diagnosis and treatment techniques. Wherever your studies take you in the future, you will need to possess superior skills in finding out the information you need. A comprehensive guide to Information Literacy has been designed for you by the UNSW library and is available on your myeLearning site [see ‘Internet Resources’ later].

Major Topics

1. The functional interrelationships of the major components of the eye, extraocular muscles, ocular adnexa and brain which enable visual perception (overview of the visual system, clinical tools for imaging eye and brain structure)
2. How the living eye maintains its integrity (the eye is part of the living body)
3. How the eye captures, focuses still and moving images (is the eye like a camera?)
4. What kinds of visual processing are undertaken by the brain which underlies visual perception? (image processing)
5. Evidence based practice and introduction to research skills (research methods)
6. Group communications classes, knowing about yourself and how you communicate with other and how others may communicate with you, personality, group dynamics and decision-making, depression.
7. The professional context of studies in vision science, the important issues in optometry and vision science

Relationship to Other Courses within the Program

Any vision scientist or optometrist will require an advanced understanding of the eye, and this course provides the foundations on which subsequent courses in the optometry and vision science majors build on.

This course is also offered as a general studies or elective class and would benefit anyone who wishes to learn more about the how we see. It would complement the studies of any student who is interested in working in areas relating to ocular physiology or visual perception. This course also introduces students to some of the clinical tests used by optometrists and other eye health professionals.

4. Rationale and Strategies Underpinning the Course

Teaching Strategies

A number of different features in addition to lectures will be used to aid learning in this course; Practical and tutorial classes – These classes will support what is taught in lectures by allowing space and time for thinking, discussion and the opportunity you to perform tests and activities.
### Group presentation
Here you will work in a group of people with whom you are not necessarily familiar – working on a project in which you are able to tackle an important issue related to the optometry and vision science. You will be encouraged to express your answer creatively.

### Group communications classes
Here a number of classes will be given to aid your learning and understanding of important issues not only at University, but within your likely future profession. These include group communication classes and online discussions.

### Being an optometry clinic patient and online discussions
This will highlight to you the importance of communication skills to optometry. It will put your learning in VISN1211 into the clinical context and will allow you to meet with other students who are more advanced in their studies than you. For vision science students, you will learn to appreciate which visual functions are presently assessed clinically and realize the potential for new tests designed to probe our visual system. For all students, it will help you understand the lectures relating to eye structure and function and visual perception.

### Contributing to scientific knowledge by being a research participant and online discussions
This class will allow you to experience what it is like to be a vision scientist involved in research. You will see the issues of ethics/consent in action and learn about the different scopes of questions being investigated by vision scientists as well as aid in finding the solution to said questions.

### Research methods and written assignment
You will be taught research skills and given the opportunity to exercise these skills, including critical thinking on a topic of interest to you, in the area of optometry and vision science. You will learn how to give and receive advice through a peer review process and complete a small written assignment. Through this, you will gain an appreciation of how scientific knowledge grows, particularly in the area of optometry and vision science.

### Rationale for learning and teaching in this course
The teaching rationale acknowledges that actively engaging you in the learning process, creating a challenging climate of enquiry, the use of interesting and fun activities, including your prior experience and knowledge and contextualising what is learned will improve your educational experience. ([http://teaching.unsw.edu.au/guidelines](http://teaching.unsw.edu.au/guidelines)).

Therefore this course provides you with many opportunities to grow in knowledge, critical thinking and in your understanding of the professional context of your learning. You will be prompted to link today’s material with what you already know and then project it forward by speculating where it might be useful, as this style forms the basis of any good learning of anything (commerce, history, vision science).

You will also find throughout this course that you will be strongly encouraged to work in groups and discuss the topics together – this helps to reinforce your learning.

At times you will be asked to tackle topics which are issues current optometrists and/or vision scientists struggle with – this is difficult but deliberate – it will provide you with issues to think about and build upon for the rest of your professional life.

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[^Reflecting on your teaching]
## 5. Course Schedule

<table>
<thead>
<tr>
<th>Week 1  (starting 28 July)</th>
<th>Lecture (Thursday, 2-3 pm), OMB112</th>
<th>Lecture (Thursday, 3-4 pm), OMB112</th>
<th>Tutorials OMBLG21 (Wks 2, 3, 5, 8, 9, 11, 12), Red4034 (Wks 6, 7)</th>
<th>Practical OMB255 (Wks 3, 5) RMB2.009 (Wks 4, 6, 7, 9-12)</th>
<th>Other</th>
<th>Assignment and Submission dates (see also ‘Assessment Tasks &amp; Feedback’)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overview of visual system 1 (design principles of the eye) A/Prof. B. Junghans</td>
<td>Overview of the visual system Part 2 (the eye and adnexa) A/Prof. B. Junghans</td>
<td>Ethics in the clinical and research environment part 1, Literature search skills and Intro to Written Assignment, 1 hour Dr M. Boon, Dr J. Kim, tutors</td>
<td>This time is allocated to contributing to scientific knowledge by being a research participant</td>
<td>GrpCom3 (Tues 10am-12pm) see moodle</td>
<td>Group communications homework part 1 due at end of GrpCom2 class (submit e-copy through moodle, and hardcopy to tutor)</td>
</tr>
<tr>
<td></td>
<td>Overview of the visual system Part 3 (brain and visual brain) Dr J. Kim</td>
<td>Research methods 1 (How to be an evidence based practitioner) Dr K. Challinor</td>
<td>Ethics in the clinical and research environment part 2, 1 hour Dr M. Boon, Dr J. Kim, tutors</td>
<td>Overview of the eye practical, 1 hour Dissection of an eye (NB: wear lab coat and safety spectacles) Dr S. Nona</td>
<td>GrpCom4 (Tues 10am-11am) ColomboThC Ms Ola Ahmed</td>
<td>Written assignment paper nomination must be complete</td>
</tr>
<tr>
<td></td>
<td>Overview of the visual system Part 4 Dr J. Kim</td>
<td>The eye is part of the body part 1 (cells to systems, homeostasis drives a successful eye, the cornea) Dr S. Nona</td>
<td>This time is allocated to contributing to scientific knowledge by being a research participant</td>
<td>Observing the living anterior eye, 1 hour Dr M. Boon</td>
<td>Questions for career panelists must be submitted to the online discussion</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Research methods 2 (EBP, the research process and why do we need statistics?) Dr K. Challinor</td>
<td>The eye is part of the living body Part 2 (aqueous humour) Dr Sam Nona</td>
<td>Observing Ocular Cell Physiology, 1 hour Dr M. Madigan, tutors</td>
<td>Overview of the eye and brain practical (models), 1 hour Dr S. Nona</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The eye is part of the living body Part 3 (Keeping the crystalline lens transparent through homeostasis) Dr Sam Nona</td>
<td>The eye is part of the living body Part 4 (where does vision commence, homeostasis in the retina) Dr Sam Nona</td>
<td>Research methods (EBP), 2 hours (either wk 6 or 7, check moodle) Dr K. Challinor, tutors</td>
<td>Observing the living posterior eye, 2 hours (either wk 6 or 7, check moodle) Dr M. Boon, demonstrators</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GrpCom5: PROFESSIONS IN OPTOMETRY AND VISION SCIENCE PANEL Dr M. Boon, Dr J. Kim, Mr Andrew McKinnon</td>
<td>Research methods (EBP) 2 hours (either wk 6 or 7, check moodle) Dr K. Challinor, tutors</td>
<td>Observing the living posterior eye, 2 hours (either wk 6 or 7, check moodle) Dr M. Boon, demonstrators</td>
<td></td>
<td>Online Reflective Discussion: Being a clinic patient closes Friday 5 pm.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is the eye like a camera Part 1? (Dark and light adaptation) Dr S. Nona</td>
<td>Research methods 3: (Populations and Samples) Dr J. Kim</td>
<td>Peer Review of Written Assignments, 1 hour Dr M. Boon, Dr J. Kim, tutors</td>
<td>This time is allocated to contributing to being a clinic patient</td>
<td>Mid-session test (Tues 10-11.30am) Grps 1A, 1B, 2A (ElecEngG24) Grps 3A, 3B, 3C (MathewThB) Mid-session test</td>
<td>Written assignment draft must be complete for distribution to peers</td>
</tr>
</tbody>
</table>

NB: wear lab coat and safety spectacles
| Week 9  
(starting 22 Sept) | Is the eye like a camera  
Part 2? (Focussing the  
image: accommodation and  
the concept of refractive  
error)  
A/Prof. B. Junghans | Lecture 14: Is the eye like a  
camera  
Part 3?  
(Changing fixation, How  
and why do we move the  
esyes? Binocular vision,  
stereopsis)  
Dr L. Asper | Research methods tutorial  
strand: Normal distribution, 1  
hour  
Dr J. Kim, tutors | Is the eye like a camera?  
(Appreciating colour vision), 1  
hour  
Dr M. Boon, demonstrators | Peer review must be  
complete and returned to  
author during your  
scheduled tutorial class |
| Week 10  
(starting 7 Oct) | Is the eye like a camera  
Part 4? (Image processing,  
how the retina works)  
Dr S. Nona | Vision and beyond part 1  
Dr J. Kim | NO TUTORIAL because of  
Monday public holiday. Time is  
devoted to being a clinic  
patient | NO PRACTICAL because of  
Monday public holiday. Time  
is devoted to being a clinic  
patient |
| Week 11  
(starting 13 Oct) | Research methods 4:  
(introduction to the t-test)  
Dr J. Kim | Vision and beyond part 2  
Dr J. Kim | Image processing tutorial, 1  
hour  
Dr J. Kim, tutors | How do others see the  
world? (VA and refractive  
errors), 1 hour  
Dr B. Junghans,  
demonstrators | Written assignment  
due Monday 5 pm  
(submit e-copy through  
moodle, and hardcopy to  
school office) |
| Week 12  
(starting 20 Oct) | GrpCom6: Group presentation  
Dr M. Boon, Dr J. Kim, Mr Andrew McKinnon | Research methods tutorial  
strand: Populations and  
Samples, 1 hour  
Dr J. Kim, tutors | Is the eye like a camera?  
(binocular vision), 1 hour  
Dr L. Asper, demonstrators | Group presentation  
Online reflective  
discussion:  
Contributing to  
scientific knowledge  
closes Friday 5 pm.  
Online research  
methods quiz hurdle  
mark is calculated  
Friday 5 pm |
| Week 13  
(starting 27 Oct) | Clinical and Research Tools  
for imaging eye and brain  
structure and function  
Prof. M. Kalloniatis | Future directions in vision  
science  
Dr J. Kim | This time is allocated to  
contributing to scientific  
knowledge by being a research  
participant | This time is allocated to  
contributing to scientific  
knowledge by being a research  
participant |

NB: Colour codes – Classes designed to foster graduate attributes are in blue, optometry and vision science content is in green, research methods classes are in orange
## 6. Assessment Tasks and Feedback

<table>
<thead>
<tr>
<th>Task</th>
<th>Knowledge &amp; abilities assessed</th>
<th>Assessment Criteria</th>
<th>% of total mark</th>
<th>Date of Feedback</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid-session</td>
<td>Understanding of all materials related to overview of the visual system (parts 1-4) and the eye is part of the living body (parts 1-4)</td>
<td>Accuracy of answers</td>
<td>15%</td>
<td>n/a</td>
<td>Week 8, Tuesday 16th Sept</td>
</tr>
<tr>
<td>Written Assignment</td>
<td>Searching, critical appraisal, peer review and scientific academic writing skills.</td>
<td>Demonstrated ability to search for quality information related to a research question. Demonstrated ability to critically appraise 3 research papers and succinctly synthesise your conclusions about what is currently understood about the issue under research. Demonstrated ability to respond to peer review comments to improve your work</td>
<td>15%</td>
<td>Week 2 tutorial</td>
<td>Throughout the course</td>
</tr>
<tr>
<td>Research methods online quiz</td>
<td>All lecture and tutorial material covered in Research Methods from weeks 8-13 inclusive.</td>
<td>Accuracy of answers</td>
<td>8% and hurdle</td>
<td>Multiple attempts</td>
<td>Week 12 (hurdle, mark calculated based on best score by Friday 5 pm of Week 12).</td>
</tr>
<tr>
<td>Group Comm. homework</td>
<td>Ability to reflect on individual and group dynamics</td>
<td>Homework assignments completed and participated in workshops</td>
<td>3% and hurdle</td>
<td>During Group Communications lectures weeks 1</td>
<td>Week 1, 2</td>
</tr>
<tr>
<td>Group presentation</td>
<td>Ability to work as part of a team to create an accurate, entertaining and informative presentation</td>
<td>Evidence of teamwork (log book, attending group presentation) and accuracy of content of presentation</td>
<td>3% and hurdle</td>
<td>Week 3</td>
<td>Week 11, Lectures 3 and 4.</td>
</tr>
<tr>
<td>Clinical Optometry and Vision Science (being a clinic patient)</td>
<td>Ability to take responsibility for own learning experience in relation to the clinical context of vision science.</td>
<td>Participation</td>
<td>hurdle</td>
<td>Week 1</td>
<td>28th August 2012</td>
</tr>
<tr>
<td>Research in optometry and vision</td>
<td>Participate in vision research projects</td>
<td>Accuracy of responses</td>
<td>hurdle</td>
<td>Week 3</td>
<td>Week 13</td>
</tr>
</tbody>
</table>

## Online discussions

<table>
<thead>
<tr>
<th>Activity</th>
<th>Details</th>
<th>Percentage</th>
<th>Week</th>
<th>Instructor</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to take responsibility for own learning experience in relation to the clinical and research professional contexts of optometry and vision science</td>
<td>Thoughtfulness of commentary</td>
<td>6%</td>
<td>Week 3</td>
<td>Dr Boon</td>
<td>During the exam period</td>
</tr>
<tr>
<td>Knowledge of all lecture, tutorial and practical materials from weeks 2-13 inclusive, excluding Group Communication classes.</td>
<td>Accuracy of answers (NB: must pass this examination with a mark of at least 50% in order to pass the course*. See below for more details.)</td>
<td>50%</td>
<td>Exam date</td>
<td>Office</td>
<td>As part of final grade</td>
</tr>
</tbody>
</table>

*must complete this activity to pass the course

*If this examination is failed (i.e. mark <50%), the course mark defaults to the end of session examination mark, despite your apparent course aggregate mark, the aggregate will be deemed to be that mark, and you will be awarded a grade of “unsatisfactory fail” (UF) because an essential component of the course has been failed. Note: a UF requires you to repeat the course regardless of the mark, and will prevent you from undertaking subsequent courses for which VISN1101 is a pre-requisite.

### 7. Additional Resources and Support

<table>
<thead>
<tr>
<th>Text Books</th>
<th>There is one textbook and there are three recommended textbooks. The recommended textbooks will be useful for more than one year, if you intend on taking optometry or vision science subjects in 2nd year and beyond.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended textbook which covers the content in the eye is part of the living body. There are 2 options.</td>
<td>1. Sherwood, L. Human physiology: from cells to systems by Sherwood Note this is the preferred text for VISN1101.</td>
</tr>
<tr>
<td></td>
<td>2. Stanfield, C.L. and Cummings, B. Principles of Human Physiology 5th edition, 2013. Note that this is a textbook in 2nd year if you intend to take PHSL2101 PHSL2121 PHSL2501 in semester 2 so you may wish to purchase this book.</td>
</tr>
<tr>
<td>All texts are available at the UNSW Bookshop or at the UNSW Library</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
## Required Readings

The sections of the text books and required readings as listed below are assessable.

The VISN1101 Moodle site will be an essential part of the course.

This Course Outline is essential reading. It holds all information required for your survival in this course.

In addition, the school web site will hold important information including timetables, staff contact details, and information on supplementary examinations; http://www.optom.unsw.edu.au/

### Readings for The eye is part of the living body

1. Sherwood’s Fundamentals of human physiology (textbook), the chapter covering the Eye, Overview of the Central Nervous System, Introduction to Physiology and Homeostasis,

### Readings for the Group Communications Classes include:

1. Edward de Bono’s Six Thinking Hats.

### Readings for the Research Methods Course

6. UNSW learning centre, online writing skills help (http://www.lc.unsw.edu.au/olib.html)

## Additional Readings

### Readings for The eye is part of the living body

1. The structure and transparency of the cornea . D. M. Maurice  J Physiol v.136(2); Apr 30, 1957 (see http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1358888/)

### Readings for Is the eye like a camera?


## Recommended Internet Sites

Webvision.med.utah.edu/book

## Societies

You should already have elected your year representatives to SOS, the Society of Optometry Students. They will be organising a number of social functions this session, including the fantastic EyeBall, which you all should attend! Your year representatives will also formally welcome and thank guest speakers and panelists.

You will have the opportunity throughout the session to meet Andrew McKinnon, the Executive Director of the NSW division of the Optometrists Association of Australia.

The website of the NSW Division of the Optometrists Association website is: http://www.optometrists.asn.au/NSW/

The National Optometrists Association of Australia website is; http://www.optometrists.asn.au

## Computer Laboratories or Study Spaces

The School of Optometry and Vision Science is fortunate to have its own student computer laboratory located in the OMB. Room availability is usually stated on a weekly schedule posted on the door.
If these spaces are occupied or unavailable then the UNSW Library contains vast study and computing spaces that are open for longer hours than those in the school. Consult the UNSW Library website (http://info.library.unsw.edu.au/) for opening hours – hours are often longer at exam time. If you are concerned getting to/from the library at night, you can contact UNSW Security (http://www.security.unsw.edu.au/ or 9315 6000) for personal escort services around the UNSW campus.

8. Required Equipment, Training and Enabling Skills

<table>
<thead>
<tr>
<th>Equipment Required</th>
<th>Lab coat and safety glasses (such as those used in Chemistry) or spectacles will be required for a number of practicals, including the dissection to be performed in Week 4.</th>
</tr>
</thead>
</table>
| Enabling Skills Training Required to Complete this Course | A number of elements training you in the ‘enabling skills’ are built into the course, and hence this will primarily be taken care of during class!  
The UNSW Library has tailored a LILT and ELISE Information Literacy course. See separate information sheet from the UNSW Library posted on eLearning for VISN1211 for the web locations. You will be expected to demonstrate competency with ELISE by the end of Week 5 (I will be supplied with the names of all students having completed this tutorial for cross checking).  
Your written assignment will also be used to evaluate your English skills and provide feedback on further training courses which may prove helpful for your university learning.  
Any required Occupational Health and Safety (OHS) training will be built into the course practicals, and hence additional training will not be required.  
The UNSW Library has put together a compendium of web resources for you:  
University Library Services for 1st Year Optometry and Vision Science Students  
Undergraduate ELISE https://my.unsw.edu.au/student/atoz/ELISE.html)  
After completing this online tutorial you will know how:  
Information is organised and the language of the information landscape  
To identify what you need and what tools to use to locate and obtain it  
You can also access resources at the Learning Centre  
http://www.lc.unsw.edu.au  
Especially, take note of how to avoid plagiarism https://student.unsw.edu.au/plagiarism |

9. Course Evaluation and Development

Student feedback is collected regularly 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.

<table>
<thead>
<tr>
<th>Mechanisms of Review</th>
<th>Last Review Date</th>
<th>Comments or Changes Resulting from Reviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Course Review</td>
<td>5 December 2013</td>
<td>This is the second year that VISN1101 will be run, however much of the course material has been presented as tried and true lectures, tutorials and practicals in the predecessor of this course, VISN1211 and other 2nd year optometry and vision science courses. This course shares many components with its predecessor, VISN1211, but most of the ocular anatomy has been removed and will now be taught in 2nd year vision science. In place of the anatomy is an emphasis on understanding how the eye is part of the living body and an introduction to how the eye captures light, sends messages to the brain and how these messages are subsequently processed to allow visual perception. In other words, the big picture of how visual perception arises is presented so that you will understand how the detailed anatomy</td>
</tr>
</tbody>
</table>
and physiology you encounter in 2nd year are related to optometry and the science of visual perception. Similar to VISN1211 and other SCIF courses, this course familiarizes you with the professional context in which knowledge of optometry and vision science can be applied.

**CATEI**

Much of the ocular anatomy content has been moved to 2nd year vision science in response to the need for some students to have a better grounding in the biological sciences before tackling detailed ocular anatomy.

**Other**

This course is a result of extensive consultation with the profession, industry, and previous students who have studied in this current program.

Previous students have commented on course components as follows:

- Group communications: “Doing tasks such as this really makes us think about what type of person we are. How do we see ourselves, and others? How do we think, and do we allow consideration for others’ views?”
- “I found it a very effective way of commencing the semester exploring vision and the characteristics of oneself”.
- “The class began with many of us not knowing anyone. Within only a short period of time this would be change…I walked into class to be greeted by my new classmates, and my new friends”.
- **OAA careers panel**: “Our future as students is one of the biggest concerns….I found the presentation factual and educational. It has provided me with the basics of where my future stands and how many opportunities are present.”
- Being a clinic patient: “I now know that I not only need to study for good marks, but I will also need to constantly revise the material I have learnt because it will become essential when I graduate”.

## 10. Administration Matters

### Expectations of Students

Policy regarding attendance is here: [https://my.unsw.edu.au/student/atoz/AttendanceAbsence.html](https://my.unsw.edu.au/student/atoz/AttendanceAbsence.html)

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**
  - [www.it.unsw.edu.au/](http://www.it.unsw.edu.au/)
  - Telephone: 02 9385 1333
  - Email: [itservicecentre@unsw.edu.au](mailto:itservicecentre@unsw.edu.au)

### Assignment Submissions

All Assignments may be submitted
- directly to your lecturer or
- via the Assignment submission box at the Student Enquiry office (Rupert Myers Building, Room 3.003)

A completed copy of the Assignment Attachment Sheet must be attached to each assignment before submission.

Marked assignments can be collected from the:
- School Enquiry office **during counter opening hours**. You must show a valid student card to do this.

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: [http://www.optometry.unsw.edu.au/current/policies-and-procedures](http://www.optometry.unsw.edu.au/current/policies-and-procedures)
| Occupational Health and Safety<sup>12</sup> | 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: [http://www.optometry.unsw.edu.au/whs/work-health-and-safety](http://www.optometry.unsw.edu.au/whs/work-health-and-safety) |
| Assessment Procedures | SCHOOL OF OPTOMETRY AND VISION SCIENCE, UNSW SUPPLEMENTARY EXAMINATION INFORMATION, 2014 |
| UNSW Assessment Policy<sup>13</sup> | There are two circumstances whereby a supplementary examination may be granted: |
|  | COMPETENCY IN DOUBT Students whose competency level is in doubt after the final examination(s) may be eligible to sit a supplementary examination in the course(s) concerned. |
|  | 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. To do this you must make formal application for Special Consideration for the course(s) affected as soon as practicable after the problem occurs and within three working days of the assessment to which it refers. The application must be made via Online Services in myUNSW. Log into myUNSW and go to My Student Profile tab > My Student Services channel > Online Services > Special Consideration. Submit the application (including supporting documentation) to UNSW Student Central. |
|  | Special Consideration - Pre-Existing Conditions Many conditions that are the subject of special consideration applications are pre-existing and could be used repeatedly to gain examinations at a later date. These include conditions aggravated or triggered by the stress of the assessment. With the help of your doctor and/or other health care practitioners, steps can be taken ahead of the assessment time to minimise or avoid the consequences of these conditions. When applying for special consideration on the basis of a condition that was already known to be a problem for you and which you have already used as the basis for a special consideration application, the School will require you to provide a certificate that details the preventative measures taken and why they were not successful. This will then be taken into account when considering the application. |
|  | 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). You must also submit an application for Special Consideration as detailed above. |
|  | You are reminded that supplementary examinations are not granted lightly or automatically. Eligibility for supplementary examinations, for both of the above situations, is determined by the School Examination Committee, which meets soon after the formal examination period has ended. You cannot “apply” for a supplementary examination, so please do not contact the School or Course Controllers to request a supplementary examination. |
|  | 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 [http://www.optom.unsw.edu.au](http://www.optom.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 2014 WILL BE HELD AS FOLLOWS: |
|  | FOR SESSION 1: |
|  | • STAGE 1-4 COURSES: DURING THE WEEK OF 7-11 JULY 2014 |
|  | • THERE WILL BE NO SUPPLEMENTARY EXAMINATIONS FOR STAGE 5 STUDENTS IN SEMESTER 1 2014 |

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<sup>12</sup> UNSW OHS Home page

<sup>13</sup> UNSW Assessment Policy

<sup>14</sup> Student Complaint Procedure
FOR SESSION 2:

- ALL COURSES: DURING THE WEEK OF 1-5 DECEMBER 2014

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. 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. However usual Special Consideration for illness still applies.

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.

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.

School of Optometry and Vision Science, UNSW, 7 February 2014

Equity and Diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course Convenor prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equity and Diversity Unit (9385 4734 or http://www.studentequity.unsw.edu.au/).

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.

Student Complaint Procedure\(^4\)

<table>
<thead>
<tr>
<th>School Contact</th>
<th>Faculty Contact</th>
<th>University Contact</th>
</tr>
</thead>
</table>
| Mr David Pye  
Senior Lecturer  
d.pye@unsw.edu.au  
Tel: 9385 7874 | A/Prof Julian Cox  
Associate Dean (Education)  
julian.cox@unsw.edu.au  
Tel: 9385 8574  
or  
Dr Gavin Edwards  
Associate Dean  
(Undergraduate Programs)  
g.edwards@unsw.edu.au  
Tel: 9385 8063 | Student Conduct and Appeals Officer (SCAO) within the Office of the Pro-Vice-Chancellor (Students) and Registrar.  
Telephone 02 9385 8515,  
email  
studentcomplaints@unsw.edu.au  

Student Conduct and Appeals Officer (SCAO) within the Office of the Pro-Vice-Chancellor (Students) and Registrar.  
Telephone 02 9385 8515,  
email  
studentcomplaints@unsw.edu.au  

University Counselling and Psychological Services\(^5\)  
Tel: 9385 5418

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\(^{4}\) University Counselling and Psychological Services

\(^{5}\) University Counselling and Psychological Services
What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one’s own.
*Examples include:
  • direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person’s assignment without appropriate acknowledgement;
  • paraphrasing another person’s work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
  • piecing together sections of the work of others into a new whole;
  • presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
  • claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.

† For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does not amount to plagiarism.

The Learning Centre website is main repository for resources for staff and students on plagiarism and academic honesty. These resources can be located via:

www.lc.unsw.edu.au/plagiarism

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:
  • correct referencing practices;
  • paraphrasing, summarising, essay writing, and time management;
  • appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle
† Adapted with kind permission from the University of Melbourne