

BSc (Hons) Optometry

Preliminary Recommended Reading – Optometry

The following may be of interest should you wish to undertake some preliminary private study before the course commences in September particularly with regard to revising mathematics, physics or the relevant areas of biological sciences.

It is inadvisable to purchase expensive textbooks without consultation. Students are advised to avoid the purchase of second-hand or out-of-date editions of books. Unfortunately, no single textbook can cover an entire topic to the extent required for an undergraduate degree course so further guidance will be given by lecturers during your time at City.

Biology

For biological sciences, you should refer to:

- **An Introduction to the Biology of Vision** by James T. McIlwain, Cambridge University Press (2012).
- **Human Anatomy and Physiology** by E.N. Marieb Addison and K. Hoehn, Pearson Higher Education (2015), 10th edition. Earlier editions are acceptable
- **The Human Eye: Structure and Function** by C.W. Oyster, Sinauer Associates (2006), 2nd edition

Clinical Skills

Practical and theoretical aspects of optometric clinical examination will be introduced from very basic levels during the first year of the programme so there is no need to do any preliminary reading. If you wish to purchase a reference book, we recommend the following but please note that enrolled students may be able to access these books electronically free of charge via the University library:

- **Clinical procedures in primary eye care** by David Elliott, Butterworth-Heinemann (2007), 3rd edition.
- **Investigative Techniques and Ocular Examination** by Sandip Doshi and William Harvey, Butterworth-Heinemann (2003).
- **Evidence-based practice across the health professions** by Tammy Hoffmann, Sally Bennett and Christopher Del Mar, Elsevier (2013), 2nd edition.

Maths

For mathematics you should be familiar with co-ordinate and vector geometry, trigonometry, logarithms and exponentials and algebra. The following is recommended for preliminary study:

- Online resource: <http://www.mathtutor.ac.uk>

Optics

The basics of Optics will be covered in the first few weeks of term and will assume no prior knowledge of the topic. However, should you wish to do some background reading, you should read the Geometrical Optics section of any 'A' Level Physics textbook such as:

- **Advanced Level Physics** by Michael Nelkon and Philip Parker, Heinemann (1995).
- **Optics** by Mike H Freeman and Christopher Hull, Butterworth-Heinemann (2003), 11th edition.

Visual Optics

Visual optics acts as the bridge between optics and clinical skills and it provides you with the understanding that underpins key aspects of the role of an optometrist. Therefore, the reading lists for optics and clinical skills will also help you with visual optics. There is no standard textbook for this module; we will start from an introductory level to build our understanding of the eye and its correction. To excite you about some of the topics in the first few weeks, have a look at some of the web sites listed below:

Vision testing:

- Introduction to vision testing from Vision Australia
<http://www.visionaustralia.org/eye-health/assessing-vision-loss/vision-tests>
- From the US
<http://www.allaboutvision.com/eye-test/>
- Definitions of sight impaired or severely sight impaired from the RNIB
<http://www.rnib.org.uk/eye-health-registering-your-sight-loss/criteria-certification>
- YouTube video on the Snellen Chart
<http://www.youtube.com/watch?v=zDODAfRurGs>
- Reliability of Snellen charts for testing VA for driving
<http://www.bmj.com/content/321/7267/990.short>
- Notes for doctor's in training – eye examination OSCE
<http://www.fastbleep.com/medical-notes/surgery/20/46/285>

Refractive Error (Ametropia)

- Introduction to Refractive Errors from Merck
http://www.merckmanuals.com/professional/eye_disorders/refractive_error/overview_of_refractive_error.html
- From the WHO
[http://www.who.int/bulletin/archives/79\(3\)237.pdf](http://www.who.int/bulletin/archives/79(3)237.pdf)
- From the National Eye Institute
<https://nei.nih.gov/health/errors/errors>