MODULE SPECIFICATION

KEY FACTS

<table>
<thead>
<tr>
<th>Module name</th>
<th>Refractive Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module code</td>
<td>OVM022</td>
</tr>
<tr>
<td>School</td>
<td>School of Health Sciences</td>
</tr>
<tr>
<td>Department or equivalent</td>
<td>Division of Optometry and Visual Science</td>
</tr>
<tr>
<td>UK credits</td>
<td>15</td>
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<tr>
<td>ECTS</td>
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<td>Level</td>
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MODULE SUMMARY

Module outline and aims

Laser refractive surgery has developed massively since the first procedure in the UK in 1989. Refractive surgery now uses laser and non-laser techniques in an estimated 140,000 procedures per annum. Approximately a third of optometrists will at some stage in their careers become involved in the refractive surgery sector. However, at present, there is little provision for the teaching and training of refractive surgery principles and co-management within the undergraduate optometry programmes. This course presents the latest principles of both laser and non-laser refractive correction of ametropia and remains highly topical and relevant to all those in optometric practice.

This module aims to provide you with:

- the theoretical base necessary to advise and help manage patients at all stages of process from initial interest to final discharge
- a thorough grounding in the latest technology that supports refractive surgery
- the defining features that determine the suitability for a particular refractive procedure
- an in-depth understanding of the most common procedures, results and complications
- the appropriate examination techniques in order to diagnose and manage complications
- up-to-date information of the highest quality, imparted by experts in the field, thus establishing a common standard.

Content outline

The learning on the module is delivered using methods most appropriate to the content. Much of the background material on history, lasers, intraocular lens options, visual optics and medico-legal considerations is delivered online. You will be expected to study these materials to prepare you for the face to face learning sessions. In addition a series of online "technology snippets" are delivered by experts to ensure your knowledge of the technology underpinning refractive surgery is current. This includes important areas
such as topography, wavefront scanning, femtosecond lasers, eye tracking, pachymetry and pupillometry

Face to face learning has been split into laser and non-laser procedures with the laser procedures covering conventional as well as therapeutic and presbyopic treatments. Patient selection and pre and post-operative assessment is also covered as well as the major refractive surgery techniques and their complications. More recently, increasing use has been made of intraocular lenses for correcting high refractive error and in presbyopic treatments. These important areas are also covered to provide you with a rounded learning experience in refractive surgery.

The face to face learning is supplemented with practical hands-on sessions looking at the technology involved (Orbscan, Pentacam, wavefront scanning, pachymetry, pupillometry). Your learning is also developed further with case discussions on the final afternoon that encourage you to put your knowledge into practice.

WHAT WILL I BE EXPECTED TO ACHIEVE?

On successful completion of this module, you will be expected to be able to:

Knowledge and understanding:

- Provide patients with up to date advice concerning refractive surgery techniques
- Recognise the most appropriate tests for investigating suitable candidates pre-operatively and assessing visual performance post-operatively
- Provide appropriate counselling and advice and recognise unsuitable candidates
- Recognise and act appropriately on post-operative complications
- Appreciate the most appropriate management strategy for a given refractive surgery patient, communicating effectively with the patient and their surgeon.

Skills:

- Exercise and further develop the analytical skills required for academic study and enquiry
- Interpret and critically review research pertaining to refractive surgery
- Demonstrate analytical and problem-solving skills in a variety of theoretical and practical situations
- Make judgements from the presentation of potential refractive surgery patients and patients who have undergone treatment
• Critically evaluate a refractive surgery patient's problems and exercise professional judgement in patient management

• Operate in a complex and unpredictable environment with an overview of the issues governing best practice

• Adapt your skills and interpret clinical results appropriately and safely

• Synthesise knowledge gained from the module and apply to clinical practice

• Be equipped to provide an unbiased view of the various forms of refractive surgery available and advise on the suitability of particular procedures for that patient

• Develop clinical problem-solving skills in the area of refractive surgery

• Be critically aware of the physiological and visual consequences of refractive surgery

Values and attitudes:

• Show an appropriate professional attitude towards patients and colleagues

• Show an awareness of ethical practice

HOW WILL I LEARN?

It is well-established that adult learners learn best in smaller groups and with greater interaction. The module is therefore designed using a blended learning approach so that we can use the most appropriate teaching methods: the first day is delivered online using our Virtual Learning Environment (VLE) called Moodle. This allows you to study the background materials in your own time and as needed. For example, it could be that you have extensive experience in laser procedures already but will need to revise intraocular options more fully. This flexible approach also reduces time away from your practice with all of its cost implications. However, it is very important that you have significant face to face learning and so the remainder of the module is taught in didactic sessions of up to 32 students with the addition of group work and case discussions. All lecturers are experts and encourage questions and discussion during their teaching. Some will also include specific interaction sessions to encourage critical thinking and to allow you put what you have learnt into practice. Practical sessions work in groups of about 5/6 allowing you some hands-on experience and the chance to ask in-depth questions about the technology being investigated. Finally, virtual case discussions allow group discussion with ophthalmologists about specific cases they have chosen to present to you.
**Teaching pattern:**

<table>
<thead>
<tr>
<th>Teaching component</th>
<th>Teaching type</th>
<th>Contact hours (scheduled)</th>
<th>Self-directed study hours (independent)</th>
<th>Placements hours</th>
<th>Total student learning hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online materials on the background and technology of refractive surgery</td>
<td>Online</td>
<td>8</td>
<td>22</td>
<td>0</td>
<td>30</td>
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<tr>
<td>Lectures, practical classes and workshops and demonstrations</td>
<td>Lectures</td>
<td>13</td>
<td>107</td>
<td>0</td>
<td>120</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>21</td>
<td>129</td>
<td>0</td>
<td>150</td>
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**WHAT TYPES OF ASSESSMENT AND FEEDBACK CAN I EXPECT?**

### Assessments

The assessment will consist of two closed book written assessments. You must pass each component of the examination to be awarded the certificate. Questions will test your critical and evaluative understanding, clinical recognition skills, ability to differentially diagnose and application of knowledge.

The assessment will include:
- MCQs (covering all aspects of the module)
- Long answer questions (based on cases) which test your depth of knowledge and ability to analyse clinical results using realistic scenarios

### Assessment pattern:

<table>
<thead>
<tr>
<th>Assessment component</th>
<th>Assessment type</th>
<th>Weighting</th>
<th>Minimum qualifying mark</th>
<th>Pass/Fail?</th>
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<tbody>
<tr>
<td>Long answer questions</td>
<td>Written Exam</td>
<td>50</td>
<td>0</td>
<td>N/A</td>
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<tr>
<td>MCQ Exam</td>
<td>Written Exam</td>
<td>50</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
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**Assessment Criteria**

Assessment Criteria are descriptions, based on the intended learning outcomes, of the skills, knowledge or attitudes that you need to demonstrate in order to complete an assessment successfully, providing a mechanism by which the quality of work can be measured. Grade-Related Criteria are descriptions of the level of skills, knowledge or attributes that you need to demonstrate in order to achieve a certain grade or mark in an assessment, providing a mechanism by which the quality of an assessment can be measured and placed within the overall set of marks. Assessment Criteria and Grade-Related Criteria will be made available to you to support you in completing assessments. These will be provided on the virtual learning environment or attached to a specific assessment task.

**Feedback on assessment**

Feedback will be provided in line with our Assessment and Feedback Policy. For end of module examinations or an equivalent significant task, feedback will normally be provided within four weeks of the submission deadline or assessment date. In the case of smaller pieces of work you will normally be provided with feedback within three weeks. This would normally include a provisional grade or mark. The timescale for feedback on final year projects or dissertations may be longer. The full policy can be found at: [https://www.city.ac.uk/__data/assets/pdf_file/0008/68921/assessment_and_feedback_policy.pdf](https://www.city.ac.uk/__data/assets/pdf_file/0008/68921/assessment_and_feedback_policy.pdf)

**Assessment Regulations**

The pass mark for each module is 50%. Where the module requires more than one assessment, the contribution of each to the final mark is stated in the module specification.

In the event of a fail mark being awarded, the following will apply:

Resit: You will normally be offered one resit attempt.

If you are successful in the resit, you will be awarded the credit for that module. The mark for each assessment component that is subject to a resit will be capped at the pass mark for the module. This capped mark will be used in the calculation of the final module mark together with the original marks for the components that you passed at first attempt.

If you do not meet the requirements for a module and do not complete your resit by the date specified you will not progress and the Assessment Board will require that you be withdrawn from the Programme.

If you would like to know more about the way in which assessment works at City, please see the full version of the Assessment Regulations at: [http://www.city.ac.uk/__data/assets/word_doc/0003/69249/s19.doc](http://www.city.ac.uk/__data/assets/word_doc/0003/69249/s19.doc)
INDICATIVE READING LIST


In addition attendees are encouraged to look at the following: Cochrane Database of systematic reviews (see http://www.thecochranelibrary.com/view/0/index.html accessed 25th June 2012) - enter suitable search terms such as “LASIK” or “multifocal intraocular lens”

The Royal College of Ophthalmologists web site for patient guides to laser refractive surgery and information on the Certificate in laser refractive surgery (see http://www.rcophth.ac.uk/ accessed 25th June 2012)

Notes relating to each lecture are provided on-line. Individual lecture notes also specify recommended further reading (including journal articles and research reports).

Version: 3.0
Version date: August 2016
For use from: 2016-17
### Appendix:

#### CODES

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<thead>
<tr>
<th>HESA Code</th>
<th>Description</th>
<th>Price Group</th>
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<td>Anatomy and Physiology</td>
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<tr>
<th>JACS Code</th>
<th>Description</th>
<th>Percentage (%)</th>
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<tbody>
<tr>
<td>B510</td>
<td>The study of the principles and techniques for examining, diagnosing and treating conditions of the human visual system</td>
<td>100</td>
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