



The
University
Of
Sheffield.

Academic Unit of
Ophthalmology &
Orthoptics.

MMedSci
(Vision and Strabismus)

COURSE INFORMATION

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GENERAL COURSE INFORMATION

Academic Entry Requirements:

- Diploma of British Orthoptics, with subsequent clinical experience
- Bachelor degree with honours in Orthoptics, normally 2:1 or higher
- Other honours degree in eye-care related field, normally 2:1 or higher
- Equivalent overseas qualification in Orthoptics or eye-related subject

In addition:

Normally one year's clinical experience following first degree.

Applicants who have studied in countries other than the United Kingdom and Ireland will be required to have International English Language Testing System (IELTS) overall score of 7.0 (with a minimum of 6.5 in each component).

Candidates offering less than the above academic qualifications or alternative qualifications will be considered on individual merit. Further study and clinical experience since qualification/graduation will be taken into account.

Course work (all modules including standalones):

All modules (including standalones) have a course work component known as the 'course journal' which is compulsory, but does not contribute towards degree marks.

Standalone study:

Most of the modules offered as part of the MMedSci degree programme are also available to study as a standalone option. Information about all of the modules (including the standalone option) is available below.

Those who successfully complete a standalone module will be awarded a certificate of completion.

Key Dates:

Please see our webpages for key dates:

<http://www.sheffield.ac.uk/medicine/prospectivepg/taught/mmedsci/dates>

Module 1 (Option 1): ORT6001

Concomitance and Incomitance in Depth

Attendance in Sheffield at the introductory residential weekend is required for face to face learning and teaching.

Aim:

The aim of this module is to develop an in depth knowledge and understanding of concomitant and incomitant strabismus with reference to clinical practice and recent literature.

Objectives:

On completion of the module you will be able to:

- Demonstrate knowledge and understanding of basic and current concepts relating to the aetiology, investigation and management of strabismus.
- Critically appraise and assimilate current literature
- Relate recent research to the clinical situation
- Demonstrate an understanding of differential diagnosis.

Units:

1. Investigative techniques
2. Vergence, vergence adaptation and accommodation
3. Techniques used to investigate visual function
4. Early visual development
5. Recording of eye movements
6. Eye movements
7. Emmetropisation
8. Refractive surgery
9. Adverse effects of prescribed and non-prescribed medications
10. Management of incomitant deviations: surgical options and botulinum toxin

Assessment:

- One critical appraisal of a research paper - 1,500 words maximum (5 credits)
- One essay - 3,000 words maximum (15 credits)
- One poster presentation submitted online (10 credits)

The above amount to one 30 credit module.



Information for standalone modules only

You are required to attend an introductory day that will take place in Sheffield during September for face to face learning and teaching (on the Sunday of the planned residential weekend).

Assessment:

- One critical appraisal of a research paper - 1,500 words maximum (5 credits)
- One essay - 3,000 words maximum (15 credits)
- One poster presentation submitted online (10 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself. Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within five years).

Module 1 (Option 2): ORT6011

Stroke

Additional prerequisite:

Observation of at least one clinical session specialising in stroke is recommended.

Attendance in Sheffield at the introductory residential weekend is required for face to face learning and teaching.

Aim:

The aim of this module is to develop an in depth knowledge and understanding of stroke with reference to clinical practice and recent literature.

Objectives:

On completion of the module you will be able to:

- Demonstrate knowledge and understanding of basic and current concepts relating to the aetiology, investigation and management of stroke
- Critically appraise and assimilate current literature
- Relate recent research to the clinical situation
- Demonstrate an understanding of differential diagnosis

Units:

1. Mechanisms of stroke
2. Stroke neuroanatomy and neurophysiology
3. Emergency care and later medical treatment of stroke patients
4. Specific issues regarding communication, speech and swallowing
5. Specific issues regarding mobility and cognition
6. Ocular motility disorders
7. Post stroke visual impairment
8. Post stroke perception deficits
9. Emotional Issues surrounding stroke and recovery
10. Consent, advocacy and mental capacity in relation to stroke patients; the national stroke quality standards & local services

Assessment:

- 1500 word assignment (5 credits)
- 3000 word assignment (15 credits)
- One poster presentation to be submitted online (10 credits)

The above amount to one 30 credit module.



Information for standalone modules only

You are required to attend an introductory day that will take place in Sheffield during September (on the Sunday of the planned residential weekend).

Assessment (standalone modules only):

- 1500 word assignment (5 credits)
- 3000 word assignment (15 credits)
- One poster presentation submitted online (10 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself. Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within five years).

The British and Irish Orthoptic Society (BIOS) has awarded the course Level 2 accreditation.

Module 2 (Option 1): ORT6002

Insight into Disease

You are required to participate in a 'Virtual' tutorial at the beginning of this module.

Aim:

The aim of this module is to gain knowledge and understanding of the mechanisms by which particular diseases affect ocular motility.

Objectives:

On completion of the module you will be able to:

- describe the signs and symptoms of the diseases covered
- explain the mechanisms by which ocular motility is affected
- explain the diagnostic tests available
- demonstrate awareness of the natural history of the disease

Units:

1. The effect of ageing on the visual system
2. Tumours
3. Infectious disease
4. Vascular disease
5. Human Immunodeficiency Virus (HIV) Infection
6. Myasthenia Gravis
7. Diabetes
8. Multiple sclerosis
9. Child abuse and the eye
10. Graves' Orbitopathy (GO)

Assessment:

- One written report – 2,000 words maximum (15 credits)
- One written study – 3,000 words maximum (15 credits)

The above amount to one 30 credit module.



Information for standalone modules only

You are required to attend a 'Virtual' tutorial at the beginning of this module.

Assessment:

- One written report – 2,000 words maximum (15 credits)
- One written study – 3,000 words maximum (15 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself. Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within 5 years).

Module 2 (Option 2): ORT6022

Low Vision

Additional prerequisites:

Observation of at least one clinical session prior to commencement is recommended.

NB: In order to complete the reflective diary, and gain practical experience you will have to undertake clinical work at your home clinic. A minimum of one clinical session per week is recommended. Clinical sessions cannot be offered by the University of Sheffield or the Royal Hallamshire Hospital.

You are required to attend an Introductory Day that will take place in Sheffield during early March.

There is also a compulsory clinical exam that will take place in Sheffield during July.

Aims:

- The aim of this module is to provide information regarding visual impairment and its management, appreciating the multidisciplinary and holistic approach to low vision service provision.
- To enable orthoptists/eye care professionals to become competent low vision practitioners.

Objectives:

On completion of the module you will be able to:

- Explain the national framework for low vision services and identify the organisations working in all sectors to promote the interests of visually impaired people.
- Discuss the current national policy relating to low vision service provision.
- Collaborate and consult with their local allied services to coordinate patient care.
- Debate the issues surrounding visual impairment with regard to the patient.
- Integrate theoretical and scientific concepts concerning factors (such as lighting, glare and contrast) in relation to visual impairment.
- Categorise conditions causing low vision, synthesizing relevant research findings regarding their causes and management.
- Understand the optics of low vision aids and the relationship with refractive correction.
- Apply analytical and problem-solving skills to select diagnostic and therapeutic interventions for the child and adult.

Units:

1. The effect of aging on the visual system
2. UK Vision Strategy, policy context and national groups
3. Visual impairment and the rehabilitation process
4. Coping with visual loss
5. Lighting and Contrast
6. Functional Visual Assessment
7. Central and peripheral field loss
8. Low Vision Aids
9. Very severe visual loss
10. Children with visual loss

Assessment:

- 2000 word assignment (15 credits)
- Reflective diary (6 credits)
- Clinical Low vision assessment - Competency assessed (15 credits)

A pass in the clinical assessment section must be achieved in order to pass the module.

The above amount to one 30 credit module.

**Information for standalone modules only**

You are required to attend an introductory day that will take place in Sheffield during early March.

There is also a compulsory clinical exam held in Sheffield during July.

The British and Irish Orthoptic Society (BIOS) has awarded the course Level II accreditation, and thus consider that the course meets the requirements for achieving BIOS standards for competent practice in Low Vision Assessment and Vision Aids (section 9 of 'Competency Standards and Professional Practice Guidelines for the Extended Role of the Orthoptist').

The above amount to one 30 credit module which is recognised as a qualification in itself. Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within 5 years).

Module 3 (Option 1): ORT6003

Eye to Vision

Attendance in Sheffield is required for face to face learning and teaching at the second residential weekend.

Aim:

To develop an understanding of the neuro-physiological processes involved in visual function.

Objectives:

On completion of the module you will be able to:

- demonstrate an awareness of the anatomical structures involved in all aspects of vision and eye movements
- explain the processes by which various visual functions are achieved
- state the interconnections involved in visual functions within the brain
- relate knowledge gained to clinical situations

Units:

1. Structure and function of human brain, with special reference to vision and eye movements
2. Cortical processing of visual information
3. Spatial and temporal aspects of vision
4. Normal development of the visual system
5. Colour perception
6. Binocular disparity
7. Motion processing
8. Plasticity of the developing visual system
9. Amblyopia

Assessment:

- One written report – 2,000 words maximum (15 credits)
- Case presentation submitted online using Kaltura (this is the University's videoing platform) (15 credits)

The above amount to one 30 credit module.



Information for standalone modules only

You are required to attend an introductory day that will take place in Sheffield during September for face to face learning and teaching.

Assessment:

- One written report – 2,000 words maximum (15 credits)
- Case presentation submitted online using Kaltura (this is the University's videoing platform) (15 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself.

Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within 5 years).

Module 3 (Option 2): ORT6033

Exemptions*

Attendance in Sheffield is required for face to face learning and teaching at the second residential weekend.

Aim:

This module will facilitate advanced practice in the area of prescription only and non-prescription exemption listed medicines for Orthoptists, by enhancing knowledge of the pharmacokinetics and actions of these specific medicines.

Objectives:

On completion of the module you will be able to:

- Explain the patient consultation process, including the importance of accurate assessment, history taking and discussion with patients and their parents/carers
- Identify and assess the desirable outcomes of treatment
- Describe the different non-pharmacological and pharmacological approaches to modifying disease and promoting health
- Explain the mode of action and pharmacokinetics of medicines and how these mechanisms may be altered and how this affects treatment decisions
- Recognise the potential for adverse effects and how to avoid/minimise, recognise and manage them
- Describe the correct procedure for reporting adverse effects of medicines
- Apply the principles of evidence based practice including clinical and cost-effectiveness
- Work with patients to make informed choices about their management and respect their right to refuse or limit treatment
- Explain the rationale behind and the potential risks and benefits of management options
- Deal sensitively with patient's emotions and concerns about their medicines
- Effectively use the systems necessary to supply and administer medicines
- Evaluate current information about relevant medicines (e.g. storage conditions and costs)
- Apply the legal and ethical frameworks affecting practice
- Outline how medicines are licensed, sourced and supplied and the implications
- Describe methods of achieving a consultation outcome with which both the patient and Orthoptist are satisfied

Units:

1. Introduction
2. Legal framework

3. Pharmacology and Anatomy
4. Cycloplegia and Mydriasis
5. Ocular lubricants
6. Local anaesthetics
7. Antimicrobials
8. Communication
9. Administer and supply
10. Record Keeping
11. Continued Professional Development

Assessment:

- One patient information leaflet - two sides of A4, 2,000 words maximum (8 credits)
- One essay – 2,000 words maximum (10 credits)
- Online assessment - 30 x multiple choice questions (6 credits)
- Reflective diary (6 credits)

The above amount to one 30 credit module.

* [Pending approval by the HCPC](#)



Information for standalone modules only

You are required to attend an introductory day that will take place in Sheffield during September for face to face learning and teaching.

Assessment:

- One patient information leaflet - two sides of A4, 2,000 words maximum (8 credits)
- One essay – 2,000 words maximum (10 credits)
- Online assessment - 30 x multiple choice questions (6 credits)
- Reflective diary (6 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself.

Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within 5 years).

Module 4: ORT6100

Research Methods

(not available to PG Diploma students)

Aim:

The aim of this module is to give you a broad understanding of the methods of research and enquiry in healthcare as well as the ethics and research governance of research practice. The module will cover derivation of a simple hypothesis, maximising the sensitivity of a research study and appropriate use of statistics. It also aims to aid understanding of the analysis and interpretation of research data and writing up of results in the subject area of vision and strabismus.

Objectives:

On completion of the module you will be able to:

- Provide an overview of research design
- Provide an overview of the processes of carrying out a research project
- Describe the regulatory processes around research design
- Derive hypotheses and describe simple ways in which they may be tested
- Know the ethical framework and processes in the UK and the student's home country
- Adopt professional high standards to work ethically and effectively
- Command simple statistics and apply them to data
- Understand the processes around interpreting data
- Present data clearly and effectively
- Discuss results with reference to published literature.

Units:

1. Introduction
2. Literature review
3. Hypothesis
4. Planning your experiment
5. Research governance
6. Ethics
7. Parametric statistics
8. Non-parametric statistics
9. Presenting data
10. Writing up

Assessment:

- One research protocol – 2,500 words maximum (30 credits)

The above amount to one 30 credit module.



Information for standalone modules only

You are required to participate in a 'Virtual' tutorial at the beginning of this module.

Assessment:

- One research protocol – 2,500 words maximum (30 credits)

The above amount to one 30 credit module which is recognised as a qualification in itself.

Alternatively the credits can be used as a contribution to the MMedSci (Vision and Strabismus) qualification should a student subsequently apply and be accepted onto the course (within 5 years).

Module 4: ORT6004

Dissertation

(PG Diploma students only as an option to Module 4)

Aim:

The aim of this module is to encourage you to pursue an area of interest independently and to critically appraise the selected topic through literature review.

Objectives:

On completion of the dissertation you will have:

- Identify a suitable topic.
- Comprehensively search for relevant literature.
- Reviewed and critically appraised literature in the topic area.
- Related findings from literature to clinical practice.
- Presented the information appropriately.

Assessment:

- 6000 word dissertation on a subject of your choosing (30 credits)

The above amount to one 30 credit module.



Information for standalone modules only

This module is not offered as a standalone.

Modules 5 & 6: ORT6005 Research Project

Aim:

The third year research project allows students to pursue a research area of their own interest. The conceptual process of the research project is started in ORT 6100, which involves searching the published literature searching to identify new research areas of interest. During the research project you will be supported by an academic research supervisor to plan and design your project, gain ethical approval, analyse, interpret and write up your results for your MMedSci thesis.

Objectives:

On completion of the module you will be able to:

- Identify less explored areas of published research and construct research designs which address these
- Develop and write an appropriate research question and hypothesis
- Plan and execute a research project which captures data from which hypotheses can be tested
- Discuss and know how to minimise the ethical issues relating to your research project and gain ethical approval appropriate for your place of work
- Determine the correct statistical tests to perform on your data
- Conduct detailed statistical analyses of all of your results
- Interpret your results and conduct a detailed comparison of how they compare with the published literature
- Write your MMedSci thesis – in brief a written report of the literature review you conducted, the research question, hypotheses, methodology, results, discussion and conclusion.

Assessment:

Submission of two bound copies of a written report of maximum 10,000 words concerning a piece of research designed, implemented and statistically analysed by you.



Information for standalone modules only

This module is not offered as a standalone.