Programme Specification

A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

1	**Programme Title**	Orthoptics
2	**Programme Code**	OPHU03
3	**JACS Code**	B520
4	**Level of Study**	Undergraduate
5	**Final Qualification**	BMedSci (Hons)
6	**Intermediate Qualification(s)**	Not applicable
7	**Teaching Institution** (if not Sheffield)	Not applicable
8	**Faculty**	Faculty of Health
9	**Home Department**	School of Allied Health Professions, Nursing and Midwifery
10	**Other Department(s) involved in teaching the programme**	None
11	**Mode(s) of Attendance**	Full-time
12	**Duration of the Programme**	3 years
13	**Accrediting Professional or Statutory Body**	Health & Care Professions Council – for BMedSci (Hons) Orthoptics only (N.B: NOT for BMedSci Ocular Studies)
14	**Date of production/revision**	September 2023

15. Background to the programme and subject area

The BMedSci (Orthoptics) provides a professional qualification which is approved by the Health and Care Professions Council (HCPC). Graduates are eligible to apply for HCPC registration on completion of the three year programme. An Orthoptist works primarily in the National Health Service specialising in visual development, binocular vision and defects of ocular movement. The BMedSci Orthoptics was set up in 1991 when Orthoptics became a graduate profession. Sheffield is one of only four Universities in the UK offering a pre-registration programme in Orthoptics; it is managed by the School of Allied Health Professions, Nursing and Midwifery, Faculty of Health.

The programme is designed to provide a broad education giving an awareness of all aspects of health and detailed understanding of the eye and normal development. It then progresses to factors which may disrupt normal development and defects and pathology that affect vision, alignment and movement of the eyes. This allows the graduate to become an autonomous clinician within an eye care team. Learning how to use and adapt specific testing techniques and equipment for diagnosis. Then how to implement an appropriate clinical management plan, collaborating with other health professionals as required. On graduation, those students achieving a classified degree will be eligible to apply to register with the Health and Care Professions Council as an orthoptist.

If a candidate fails to achieve a classified Honours, the degree of BMedSci (Ocular Studies) will be awarded. This is not an honours degree and therefore **not** eligible for application for admission to the HCPC register.

16. Programme aims

1. To provide an engaging and stimulating learning environment using a blend of teaching and learning approaches and high quality learning resources to enable students to progressively become independent learners.
2. To develop the knowledge, skills, professional attitudes and expertise necessary for effective clinical practice as an orthoptist.
3. To enable the student to develop the necessary competencies in order to assess and manage a range of ocular conditions and eye diseases at the appropriate level to enter the profession.
4. To equip graduates to initiate and participate in research into visual science, with an understanding of the value of continued professional development and the importance of research to the future development of the discipline.
5. To demonstrate the skills necessary to critically engage with and contribute to the evidence base to support high quality practice and lifelong learning.

17. Programme learning outcomes

Knowledge and understanding: On completing the programme the students will be able to demonstrate and apply their knowledge & understanding of:	
K1	Vision, ocular alignment and binocular single vision, the development and consequences of disruption of these functions which will include: ● Anatomy & physiology; ● The development of binocular single vision and the principles involved; ● Tests designed to test binocular single vision; ● Mechanisms which occur following disruption of binocular single vision.
K2	The principles of visual perception and adaptive mechanisms to strabismus and ocular motor defects which will include: ● Testing the adaptive mechanisms which can occur; ● Visual processing; ● Perception.
K3	Ocular motility systems, their control and testing thereof which will include: ● Neuro-anatomy related structures; ● Eye movement control; ● Clinical & research methods of testing all eye movement systems; ● Understanding of all ocular motility defects.
K4	Human anatomy and physiology with particular detail of neuro anatomy and ocular structures which will include: ● General physiology; ● Head & neck anatomy; ● Detailed ocular and skull anatomy & physiology; ● Detailed neuro-anatomy.
K5	Medical conditions and their association with the eye which will include: ● Understanding the disease process; ● Understanding how certain diseases can affect the eye, its motility or alignment; ● A knowledge of the treatment required in these cases both medical & ocular.
K6	Ophthalmic disease and neuro-ophthalmology: ● Detailed understanding of diseases specifically related to the eye and or nerves which supply the eyes; ● The consequences of these disease processes; ● The treatment required.
K7	The specific principles and theories from physics, optics and refraction and the influence on vision and binocular vision. This will include: ● The optics of the eye; ● The principles of creating a clear retinal image;

	● The principles and application of refraction; ● The effect of manipulating refractive correction on ocular alignment; ● Emmetropisation.
K8	The psychological and social factors that influence an individual in health and illness.
K9	An understanding of research methods including the need for research within the clinical setting.
K10	The management and structure of the NHS including: ● health policies; ● key principles of health economics; ● key principles of public health; ● general principles of health screening.
K11	The ethical, legal and professional issues that inform and ensure safe and effective Orthoptic practice including ● ethical practice; ● consent; ● equality, diversity and inclusivity; ● safeguarding; ● personal health and well being.
K12	An introduction to diagnostic electrophysiology of vision including: ● Nerve conduction velocity and electrical stimulation; ● Origins and recording of the ERG and EOG; ● Visual evoked potentials.
K13	Exemption listed prescription only medicines: ● Pharmacokinetics and actions of these medicines; ● Non-pharmacological and pharmacological approaches to modifying disease; ● Potential for adverse effects and how to minimise them; ● Clinical and cost effectiveness of these medicines.

Skills and other attributes:	
S1	The practical use of equipment available for assessment of patients by an Orthoptist which will include skilled use of equipment to assess and measure: ● Strabismus; ● Binocular function; ● Visual function; ● Ocular movements.
S2	The use of investigative techniques to identify ocular defects to form a diagnosis and devise an appropriate course of action which includes: ● An understanding of the application of the results obtained.
S3	The ability to identify pathological changes and related clinical features of conditions commonly encountered by Orthoptists which will include: ● Observational skills; ● The use of equipment to examine the anterior & posterior segment of the eye; ● The assessment of visual fields.
S4	The clinical application of research methodologies and evidence based practice which will include: ● Forming an hypothesis; ● Understanding the methods available to test the hypothesis; ● Understanding the limitations imposed in the clinical environment.
S5	Develop digital capability in research design, applying appropriate digital tools, assessing, analysing and presenting data, using software and digital media.
S6	Engage in a range of appropriate research approaches including controlled experiments designs.
S7	The evaluation of results of investigation to implement a management plan appropriate for the patient and modify diagnosis and or management informed by subsequent results.
S8	The ability to communicate effectively both verbal and in the written form.

S9	Effective interaction with peers, managers, carers and other health care professionals and how these may be modified to address potential barriers, e.g. age, physical and mental impairment.
S10	The ability to use problem solving and clinical reasoning in Orthoptic practice.
S11	Good personal awareness of professional skills & limitations.
S12	Administer listed medicines.

18. Teaching, learning and assessment

Development of the learning outcomes is promoted through the following teaching and learning methods:

The teaching & learning philosophy is the appropriation of clinical skills with a good understanding of underlying principles of diseases and their diagnosis & treatment. Leading to three main outcomes i) Clinical skills ii) Understanding underlying principles iii) Understanding of diseases.

The curriculum is designed to impart knowledge & basic principles in year 1 building on this in year 2 with more self-directed and problem solving learning and critical appraisal, in both clinical and academic aspects, and research skills in the final 3rd year of study.

A variety of teaching learning & assessment strategies are employed:

- **Lectures** Imparting some of the knowledge base **(K1-12 S1-7).** The lectures are used to disseminate information to a large group of students. However, most of the lectures will include a degree of participation and interaction with the student, this will increase as the student progresses through the programme. Certain lectures also include student presentations following self-directed learning, this may be as individuals or as a team aiding the development of team working skills.

Tutorials

- Year 1 - Consolidates basic principles, uses problem solving, patient discussions and student presentations **(K1-9 S1-8)).** The Strabismus tutorials are small groups with a maximum of 15 students, the group remains the same throughout the year and each group is allocated a tutor (Anatomy & Physiology tutorials enable the students to ask questions and encompasses quizzes to aid student learning. Reflective practice tutorials following clinical placement are introduced in year 1 (S11).
- Year 2 - Journal discussions related to specific areas, patient presentations **(K1-6 K9 S1-4 S6-8)**. For Strabismus and Ocular Motility the groups continue with the same academic tutor (unless numbers dictate otherwise or staff leave) the discussions in this year are led by the students. Subjects to prepare prior to the tutorial which may include giving presentations to the rest of the group. Reflective practice and critical evaluation skills are further developed through tutorials (S11). Revision tutorials in large groups occur in optics with the opportunity for small group or 1:1 tutorials on request.
- Year 3 - Strabismus and ocular motility academic group continues. The aims now concentrate on critical appraisal of the literature to give broader understanding of the subject and understand the application and limitations of research methodology in evidence based clinical practice. The Research Project and project presentation encourage independent application and evaluation of evidence, data analysis with statistical and clinical appraisal. Case presentations are used to encourage integration of subjects, problem solving and reflective practice. **(K1-6 K9 K13 S3-4 S8)**.
- **Problem based learning** is used across all subject areas but extensively in clinical education **(K1-10 S8)**.
- **Workshops** Mainly in the practice of research methods **(S9)**.
- **Lab classes** Mainly in Research Methods **(K2 K8 K13)**.
- **Practicals** To teach necessary clinical skills. Occurs in Orthoptics, Optics & Ophthalmology and is enhanced by 32 weeks of clinical placements throughout the course **(K1-9 S1-8).** These skills are taught in both large and smaller groups depending on the skill & space required. Online learning resources such as videos and quizzes and clinical practice worksheets are given in Orthoptics and Optics, which can be repeated or practiced in the clinical skills rooms independently or in groups. The clinical skills rooms can be booked to practice in the student's own time. An optical bench allows students to experiment & learn. Ophthalmology practicals are enhanced by the student being allocated clinical time with an ophthalmologist both in Sheffield whilst at the University and whilst on clinical placement throughout the 3 years.
- Digital Media learning to develop digital fluency, professional and digital citizenship through the use of a range of online learning resources such as an e-portfolio for reflective practice, bespoke clinical learning scenarios, pre-recorded and interactive online teaching sessions, and online self-assessment quizzes.

Outcome	Teaching	Assessment
K1	L, T, M, P, PBL	McQ, SQ, E, A, P
K2	L, T, M, P, PBL Lab	McQ, SQ, E, A, P
K3	L, T, M, P	McQ, SQ, E, A, P
K4	L, T, M	McQ
K5	L, T, P, PBL	McQ, SQ, A, P, G
K6	L, T, PBL, P	McQ, P
K7	L, T, P	McQ, SQ, P
K8	L, T, P	McQ P
K9	L, W, M, P	T, P
K10	L, P	A
K11	L, P	A
K12	L, P	SQ
S1	L, Lab, P	P
S2	P	P
S3	L, M, PBL P	P
S4	L, T, W P	T, P
S5	W	T
S6	L, T, P	P
S7	L, P	P
S8	L, P	P
S9	L, T, P	E A T, P
S10	P	P
S11	T, P, M	P
S12	Lab, P	P

Key

Teaching	**Assessment**
Lecture	McQ
Media	Essay
Problem Based Learning	Short Questions
Tutorial	A open book assignment
Clinical Practice	Practical
Lab classes	Group Presentation
Workshop	Thesis
	Poster Presentation

Opportunities to demonstrate achievement of the programme learning outcomes are provided through the following assessment methods:

A variety of assessment strategies are used to reflect the need to assess, knowledge, understanding and practical skills. Assessments are tailored to individual subject outcomes within the overall framework of the programme outcomes (see section 20). The modes of assessment are:

- **Written examinations**
- **Essays** - For overall understanding, use of specialised language, evaluation, written communication

(Strabismus and Ocular Motility, Participation and Society) in year 1: essays to test their understanding of tests and principles taught in the strabismus and ocular motility module, and the activity limitations and participation restrictions an individual with physical disability and/or specific learning difficulties may experience in the Participation and Society module. Year 2: The essays test understanding of new material and the application of previous information to clinical practice. Year 3: Tests application of knowledge to clinical scenarios.

- **Short answers** - as above (Strabismus & Ocular Motility, Optics, Pathology and Microbiology). Strabismus & Ocular Motility: used to test a breadth of knowledge and understanding. Optics: used to test maths & numeracy & the ability to perform calculations which utilise the principles of geometric optics. Pathology and Microbiology: understanding of terminology and the disease process.
- **McQ** – breadth of knowledge and recall (Strabismus & Ocular Motility, Anatomy & Physiology, Ocular Anatomy, Physiology and Neuro-anatomy, Ophthalmology, Sale Supply & Administration of Medicinal Products) Strabismus & Ocular Motility in years 1, 2 & 3: to test breadth of knowledge of subject area. Optics in year 1: knowledge prior to application in year 2. Pathology and Microbiology to test breadth of knowledge to ensure sufficient knowledge base to underpin teaching in Ophthalmology & Strabismus & Ocular Motility. Year 3: Ophthalmology knowledge of clinical characteristics and management of ocular disorders. In Sale, Supply and Administration of Medicinal Products, to assess presence of factual knowledge to ensure safe use of medicines.
- **Open book assignments** - critical appraisal & ordering of knowledge (Strabismus & Ocular Motility) (year 2) to assess ability to read and appraise text & literature and discuss clinical options; (year 3) to assess ability to evaluate & discuss investigation & management options and demonstrate reflective practice. Research methods and statistics - demonstrate understanding of basic statistics and data handling.
- **Poster presentation** - NHS Management – ability to present an evidence-based proposal for new/continuation/changed Orthoptic Services to managers or commissioners and to defend the argument and evidence given. In Sale, Supply and Administration of Medicinal Products – to assess in-depth pharmacological knowledge of a listed medicine, the diagnostic or therapeutic use in a specific clinical context in relation to primary research evidence. (S8 S10).
- Presentation - Associated professional studies - demonstrate the understanding of the ethical, legal and professional issues that inform and shape Orthoptic practice developing a google site. Pathology and Microbiology - ability to present the pathological characteristics and ocular findings of ocular tumour, Strabismus and Ocular Motility in year 3 - ability to present a clinical case with a neurological condition.
- **Research project (small thesis)** - critical appraisal discernment & debate. Time management. The clinical application of research methodologies (S3-5).
- **Practical Assessment** - for specific skills. Communication skills (Clinical Orthoptics, Clinical Optics and Clinical Ophthalmology) Using simulated and real patients, assesses clinical skills, critical observation to detect and manage defects of binocular function, visual function and ocular movement. To detect refractive error and ocular pathology (S1-3).
- Formative feedback sessions during clinical education (Clinical Orthoptics, Optics and Ophthalmology) Evaluating diagnostic, management, communication and professional skills.

19. Reference points

The learning outcomes have been developed to reflect the following points of reference:

Subject Benchmark Statements
https://www.qaa.ac.uk/quality-code/subject-benchmark-statements

Framework for Higher Education Qualifications (2014)
https://www.qaa.ac.uk/docs/qaa/quality-code/qualifications-frameworks.pdf

Health and Care Professions Council Standards of Proficiency & Standards of Education & Training
https://www.hcpc-uk.org/standards/standards-of-proficiency/orthoptists

University Vision and Strategic Plan
https://www.sheffield.ac.uk/vision

Learning and Teaching guidance
https://staff.sheffield.ac.uk/teaching-guidance/teaching

Sheffield Graduate Attributes: https://students.sheffield.ac.uk/skills/sga

Feedback from external examiners, students' and employers

20. Programme structure and regulations

The course is modular and includes 32 weeks of clinical placements throughout the three years. All subjects are compulsory in view of the need to fulfil the requirements for professional registration. See section 18 for methods of assessment.

Year One (120 credits)

- Anatomy and Physiology (10 credits)
- Ocular Anatomy, Physiology and Neuroanatomy (10 credits)
- Optics (20 credits)
- Strabismus and Ocular motility (30 credits)
- Clinical Orthoptics (20 credits)
- Participation and Society (20 credits)
- Associated Professional Studies (Professional Ethics and NHS Management) (10 credits)

This year provides the foundation on which to understand principles and tests knowledge

Year Two (120 credits)

- Strabismus and Ocular Motility (30 credits)
- Visual Optics (20 credits)
- Clinical Optics and Ophthalmology (30 credits)
- Pathology and Microbiology (10 credits)
- Clinical Orthoptics (20 credits)
- Research Methods and Statistics (10 credits)

Year Three (120 credits)

- Strabismus and Ocular Motility (30 credits)
- Ophthalmology, Investigation and Management (10 credits)
- Research Project (30 credits)
- Clinical Orthoptics (30 credits)
- Sale, Supply and Administration of Medicinal Products (20 credits)

All modules have a 40-point pass mark & all must be passed. Any module passed at resit will be capped at 40. All year modules must be passed to progress on to the next year.

Degree classification is determined by the overall performance over year two (33%) & three (67%).

If a candidate fails to achieve honours the degree of BMedSci (Ocular Studies) will be awarded. This exit degree may be awarded without the candidate being successful in the Clinical Orthoptics part of the final examination provided all other components are successfully completed. This is not an honours degree and not eligible for admission to the HCPC register.

Detailed information about the structure of programmes, regulations concerning assessment and progression and descriptions of individual modules are published in the University Calendar available on-line at http://www.sheffield.ac.uk/calendar/regs.

21. Student development over the course of study

Year One

Students are introduced to basic principles and concepts related to Orthoptics. They have an introduction to psychology in Participation and Society which covers many aspects which they will build on in general & during clinical placement. Associated Professional Studies introduces ethics, professional practice, relevant law, NHS management and structure, and public health.

Year Two

Knowledge is extended and students are introduced to research skills, critical appraisal & evaluation. Further clinical skills are developed. The introduction of pathology & disease as it affects the eye.

Year Three

Further consolidation of knowledge, understanding and clinical skills. Independent working and research project undertaken. Consolidate understanding of the importance of evidence-based practice and reflective practice.

22. Criteria for admission to the programme

The entry requirements are BBB at A level and must include one of Biology, Mathematics, Physics or Chemistry. A Levels + additional qualifications BBC, including B in a science subject + B in a relevant EPQ; BBC, including B in a science subject + B in Core Maths (not applicable if Maths is taken at A Level). BTEC Extended Diploma at grades DDD in Applied Science. BTEC Diploma DD in Applied Science + B in an A Level science subject Scottish Highers + 1 Advanced Higher ABBBB + B in a science subject. Welsh Baccalaureate + 2 A levels at B + BB, including a science subject. 32 points in the International Baccalaureate with 5 in a Higher-Level science subject. T Level Distinction in the Health, Healthcare Science or Science T Level, including grade B in the core component. Access to HE Diploma Award of Access to HE Diploma in a relevant subject, with 45 credits at Level 3, including 24 at Distinction and 21 at Merit.

ILETS score of 7 with a minimum of 6.5 in each component is required for overseas applicants. Mature students are considered individually. All students must demonstrate good communication skills. All applicants are encouraged to visit a clinical Orthoptic department and all suitable applicants are invited for a university open day. Detailed information regarding admission to the programme is available in the University's On-Line Prospectus at https://www.sheffield.ac.uk/prospectus/courseDetails.do?id=B5202015

23. Additional information

The programme has integrated clinical education & the BMedSci Orthoptics (honours) is an approved qualification to enable the graduate to apply for registration with the Health and Care Professions Council. If successful this enables them to practise as an Orthoptist immediately following graduation.

This specification represents a concise statement about the main features of the programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at www.shef.ac.uk/ssid.