

Applicant Institution: _____

Date of Submission: _____



European Council of Optometry and Optics

Guidelines for the accreditation of qualifications which meet the standards of the European Qualification in Optics (EQO)

Part II: The Self-Assessment Document

February 2022

PREFACE

The following *Self-Assessment document* sets out the competency framework for the European Qualification in Optics. This is split into three sections and consists of a series of subject areas. Each subject area has a set of learning outcomes, and subject areas may comprise both Knowledge Base and Practical competencies.

For each part, the knowledge base (tables colour coded pink) for subject areas are presented first, followed by the practical competencies (tables colour coded cyan).

This is based on the syllabus for the European Qualification in Optics, available [here](#), which is a useful reference to consider the topics to be covered to achieve the learning outcomes. There is also an indicative reference to the ECTS credit weightings that different subject areas may have. These credits are based on the ECTS and European Credit for Vocational Education and Training point (ECVET) points of several accredited optics/optometric institutions and serve only as a guide. Furthermore, the suggested points intentionally do not add up to 180 ECTS. This is to allow academic institutions to tailor their programme to country-specific necessities and specialisations. Note also that the indicative ECTS credit weightings do not reflect the clinical or other professional training within a programme.

An Institution applying for accreditation completes the *Self-Assessment document* indicating where these European Qualification in Optics learning outcomes are being taught and assessed within the programme being considered. We appreciate that the format of this will likely not follow the structure of your curriculum and will take considerable time and effort to prepare. The *Self-Assessment document* is the foundation on which Institutions seeking accreditation can show how their programme aligns with the syllabus and learning outcomes of the European Qualification in Optics. In addition to this *Self-Assessment document*, the training institution will need to supply comprehensive supporting information about their programme, as described in **Part I: The ECOO accreditation scheme**.

European Qualification in Optics Competency Framework

Section I:	Optics	
	1. Geometrical Optics	Knowledge
	2. Physical Optics	Knowledge
	3. Visual Optics	Knowledge
	4. Optical Appliances	Knowledge and Practical
	5. Occupational Optics	Knowledge and Practical
	6. Spectacle Assembly	Practical
Section II:	Background Knowledge	
	7. Methods of Ocular Examination	Knowledge
	8. Refractive Error	Knowledge
	9. Contact Lenses	Knowledge
	10. Ocular Conditions & Emergencies	Knowledge
Section III:	Skills and Attitudes	
	11. Business Management	Knowledge
	12. Communication	Practical
	13. Professional Conduct	Practical

Section I: Optics and Optical Appliances (Competencies 1-6)

OPTICS: Knowledge base.

Subject 1: Geometrical Optics

Suggested ECTS/ECVET: 6

Learning outcomes: The student should demonstrate fundamental knowledge and insight into geometrical optics in order for the student to be able to understand, explain, and solve problems related to the eye and optical instruments/lenses, their function and correction. Knowledge and understanding should be demonstrated in the following areas:

Learning outcomes	Details of how* and where this is delivered in the programme?	Contribution of this component to Credit weighting?	Method of assessment?
	<i>*theoretical/practical/self-directed</i>		
(1) refraction at single spherical or plane surfaces			
(2) thin lenses			
(3) thick lenses			
(4) aberrations			
(5) apertures			
(6) sphero-cylindrical lenses			
(7) thin prism			
(8) prismatic effect, and the manipulation of lens form and setting to obtain the desired control of prismatic effect			
(9) mirrors			
(10) ophthalmic and optical instruments			

Subject 2: Physical Optics

Suggested ECTS/ECVET: 4

Learning outcomes: The student should demonstrate fundamental knowledge and insight into physical optics in order for the student to be able to understand and solve problems related to the eye and optical instruments/lenses, their function and correction. Knowledge and understanding should be demonstrated in the following areas.

Learning outcomes	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) wave optics and aberrations,			
(2) interaction of light on matter,			
(3) polarization,			
(4) transmission through successive polarizers			
(5) image quality			
(6) diffraction and interference			

Subject 3: Visual Optics

Suggested ECTS/ECVET: 2

Learning outcomes: The student should demonstrate fundamental knowledge and insight into visual optics in order for the student to be able to understand, explain, and solve problems related to image formation, both qualitative and quantitative, for the candidate to investigate the optics of the human visual system and refractive correction. Knowledge and understanding should be demonstrated in the following areas:

Learning outcomes	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) schematic eye models,			
(2) dioptrics of the eye,			
(3) entopic phenomena,			
(4) quality of retinal image,			
(5) prismatic effect, and the manipulation of lens form and setting to obtain the desired control of prismatic effect			
(6) radiation and the eye,			
(7) eye protection regulations and relevant standards.			

Subject 4: Optical Appliances

Suggested ECTS/ECVT: 12

Learning outcomes: The student should demonstrate knowledge and skills of optical appliances and dispensing and how visual correction interact with the eye. Knowledge and skills should be demonstrated in the following areas:

Learning outcomes	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) physical characteristics of ophthalmic lenses,			
(2) optical characteristics of ophthalmic lenses,			
(3) ophthalmic prisms and prismatic effect of lenses,			
(4) multifocal lenses,			
(5) physical characteristics and biological compatibility of frame materials,			
(6) specification and nomenclature of spectacle frame components,			
(7) optical and spectacle frame considerations of high-powered lenses,			
(8) spectacle magnification,			
(9) absorptive lenses,			
(10) impact resistance,			
(11) optical tolerances and physical requirements of ophthalmic lenses and frame materials,			
(12) spectacle applications.			
(13) frame and lens manufacturing techniques†			
(14) lens coatings†			

+additional Learning outcomes for EDO

Subject 5: Occupational Optics

Suggested ECTS/ECVET: 2

Learning outcomes: The student should demonstrate knowledge and understanding and be able to discuss and assess visual function in relation occupational optics. Knowledge, understanding and testing skills should be demonstrated in the following areas:

Learning outcomes	Details of how* and where this is delivered in the programme?	Contribution of this component to Credit weighting?	Method of assessment?
	<i>*theoretical/practical/self-directed</i>		
(1) visual performance,			
(2) ocular injuries,			
(3) eye protection and its regulations,			
(4) lamps and lighting, lighting regulations			
(5) visual display units,			
(6) regulations relating to vision and driving.			

Section I: OPTICS: Practical Competencies.

Subject 4: Optical Appliances

Learning outcomes: The student should demonstrate the ability to produce a complete pair of spectacles to given specifications. The student should demonstrate Practical competency in the following areas:					
	Practical competencies:	Competency assessment		Clinical experience	
		Brief details of the assessment	Where in the programme?	Minimum number of patients a student would examine	Brief description of how evidence of clinical experience is recorded
1	The ability to advise on and to dispense the most suitable form of optical correction taking into account visual performance and comfort, durability, comfort (anatomical), cosmetic appearance and lifestyle.				
2	The ability to measure and verify optical appliances, taking into account relevant standards.				
3	The ability to fit, adjust and repair optical appliances. Identifies current and absolute frame materials and considers and applies their properties when handling, adjusting, repairing and dispensing. Demonstrates ability of frame manipulation and lens manufacturing (glazing) and the application of special lens treatments.				
4	The ability to manage non-tolerance cases (i.e. the ability to handle cases when the				

	optical appliance due to lens design, lens fitting or frame fitting cannot be tolerated by the patient).				
5	The ability to dispense low vision aids				
6	the ability to dispense an appropriate optical appliance to paediatric clients, taking account of their facial anatomy				

Subject 5: Occupational Optics

Learning outcomes: The student should demonstrate knowledge and understanding and be able to discuss and assess visual function in relation to occupational optics. Knowledge and understanding should be demonstrated in the following areas.

	Practical competencies:	Competency assessment		Clinical experience	
		Brief details of the assessment	Where in the programme?	Minimum number of patients a student would examine	Brief description of how evidence of clinical experience is recorded
1	The ability to advise, prescribe and dispense spectacles, for VDU users and other vocational purposes.				
2	The ability to advise, prescribe and dispense spectacles for eye protective use.				

Subject 6: Spectacle Assembly

Learning outcomes: The student should demonstrate the ability to assemble a complete pair of spectacles; including cut, edge and fit, repairs and adjustments.
The student should demonstrate Practical competency in the following areas:

	Practical competencies:	Competency assessment		Clinical experience	
		Brief details of the assessment	Where in the programme?	Minimum number of patients a student would examine	Brief description of how evidence of clinical experience is recorded
1	The ability to cut edge and fit a range of lens types to a range of different styles and materials of spectacle frames and mounts to a given prescription and client				
2	The ability to carry out repairs and adjustments to spectacle frames and mounts to a given specification.				

Section II: Background Knowledge for Optical Practice (Competencies 7-10)

Subject 7: Methods of Ocular Examination

Suggested ECTS/ECVT: 12

Learning outcomes: the student should gain a technical understanding of instrumentation used in the examination of the eye and related structures. The student should demonstrate:

<i>Learning outcomes</i>	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) an understanding of the optical principles of instruments used in the examination of the cornea/anterior eye, the posterior eye/fundus and related structures, the reasons for their use and the implications of such measurements			

Subject 8: Refractive Error

Suggested ECTS/ECVT: 4

Learning outcomes: the student should demonstrate a basic knowledge of the structure and functions of the eye and a technical understanding of refractive error and its measurement. The student should demonstrate:

Learning outcomes	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) knowledge of the anatomical structure of the eye and its functions			
(2) a basic knowledge of refractive error			
(3) a basic theoretical knowledge of the measurement of vision and understanding of the effects of refractive error.			
(4) an understanding of the refractive prescription,			

Subject 9: Contact lenses

Suggested ECTS/ECVT: 4

Learning outcomes: the student should acquire a basic theoretical knowledge of contact lenses and related regimes. The student should demonstrate:

Learning outcomes	Details of how* and where this is delivered in the programme?	Contribution of this component to Credit weighting?	Method of assessment?
	<i>*theoretical/practical/self-directed</i>		
(1) a theoretical knowledge of contact lens types and materials, their benefits and disadvantages, and their most appropriate applications visual performance,			
(2) a basic knowledge of client instruction in contact lens handling, and all aspects of lens wear including wearing regimes ocular injuries,			
(3) knowledge of the professional and legal complications of contact lens fitting,			

Subject 10: Ocular Conditions and Emergencies

Suggested ECTS/ECVT: 4

Learning outcomes: the student should exhibit an understanding of the relevance and implications of ocular disease. The student should demonstrate:

Learning outcomes	Details of how* and where this is delivered in the programme?	Contribution of this component to Credit weighting?	Method of assessment?
	<i>*theoretical/practical/self-directed</i>		
(1) a basic theoretical knowledge of ocular conditions sufficient for recognition and appropriate referral of ocular emergencies,			

Section III: Skills and Attitudes for Optical Practice (Competencies 11-13)

Knowledge base

Subject 11: Business Management

Suggested ECTS/ECVT:10

Learning outcomes: the student should acquire a basic understanding of business management processes related to optical business and practice.

Learning outcomes	Details of how* and where this is delivered in the programme? <i>*theoretical/practical/self-directed</i>	Contribution of this component to Credit weighting?	Method of assessment?
(1) an understanding of business management including accounting, marketing and human resources			
(2) an understanding of legislation relevant to business and practice,			

Practical Competencies

Subject 12: Communication

Learning outcomes: the student should demonstrate the ability to communicate effectively with the client and any other appropriate person involved within the care of the client. The student should demonstrate practical competency in the following areas:

	Practical competencies:	Competency assessment		Clinical experience	
		Brief details of the assessment	Where in the programme?	Minimum number of patients a student would examine	Brief description of how evidence of clinical experience is recorded
1	The ability to communicate with a diverse group of clients with a range of ophthalmic conditions and needs				
2	The ability to provide information in a way which is appropriate to the client				

Subject 13: Professional Conduct

Learning outcomes: the student should exhibit ability to comply with legal, ethical and professional aspects of business and optical practice. The student should demonstrate practical competency in the following areas:

	Practical competencies:	Competency assessment		Clinical experience	
		Brief details of the assessment	Where in the programme?	Minimum number of patients a student would examine	Brief description of how evidence of clinical experience is recorded
1	The ability to communicate with a diverse group of clients with a range of ophthalmic conditions and needs				
2	The ability to provide information in a way which is appropriate to the client				

END OF EQO SELF-ASSESSMENT DOCUMENT