Applicant Institution: _____ Date of Submission: _____

The European Council of Optometry and Optics

Guidelines for the accreditation of European Optometric/Optics qualifications for exemption from all or part of the examinations of the European Diploma in Optometry

Part II: The Self-Assessment Document

March 2018

PART A:

Optics and Optical Appliances

PART A: Knowledge base for the European Diploma competencies.

Subject 1: Geometrical Optics

Suggested ECTS: 6

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into geometrical optics in order for the candidate 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 areas of: (1) refraction at single spherical or plane surfaces, (2) thin lenses, (3) thick lenses, (4) aberrations, (5) apertures, (6) sphero-cylindrical lenses, (7) thin prisms, (8) prismatic effect, and the manipulation of lens form and setting to obtain the desired control of prismatic effect, (9) mirrors, and (10) ophthalmic and optical instruments. The aim is to achieve knowledge of the fundamentals of geometrical optics and how they apply to the human eye.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(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: 4

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into physical optics in order for the candidate 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 areas of: (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. The aim is to achieve knowledge of the fundamentals of physical optics and how they apply to the human eye.

Learning outcomes	**Where in the programme?**	**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: 2

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into visual optics in order for the candidate 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 areas of: (1) schematic eye models, (2) dioptrics of the eye, (3) entopic phenomena, (4) quality of retinal image, (5) radiation and the eye, (6) eye protection regulations and relevant standards.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) schematic eye models,			
(2) dioptrics of the eye,			
(3) entopic phenomena,			
(4) quality of retinal image,			
(5) radiation and the eye,			
(6) eye protection regulations and relevant standards.			

Subject 5: Optical Appliances

Suggested ECTS: 12

***Learning outcomes**:* The candidates 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 areas of: (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 (EN), and (12) spectacle applications.

Learning outcomes	**Where in the programme?**	**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.			

Subject 6: Occupational Optics

Suggested ECTS: 2

***Learning outcomes**:* The candidates should demonstrate knowledge and understanding and be able to discuss and test visual function in relation occupational optics. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) visual performance, (2) ocular injuries, (3) eye protection and its regulations, (4) lamps and lighting and regulations regarding lighting, (5) visual display units, and (6) regulations related to vision and driving.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) visual performance,			
(2) ocular injuries,			
(3) eye protection and its regulations,			
(4) visual display units,			
(5) regulations related to vision and driving.			

PART A: Clinical/practical European Diploma competencies.

Subject 5: Optical Appliances

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
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).				

Subject 6: Occupational Optics

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to advise, prescribe and dispense spectacles, or fit contact lenses, for VDU users and other vocational purposes.				
2	The ability to advise, prescribe and dispense spectacles for eye protective use.				

PART B:

Clinical Investigation and Management

PART B: Knowledge base for the European Diploma competencies.

Subject 4: Visual Perception

Suggested ECTS: 3

Learning outcomes: The candidates should demonstrate knowledge and understanding of the physical and physiological aspects of vision including the principals of psychophysical measurements, visual detection, visual discrimination, visual search and attention, and binocular vision. Knowledge and understanding, including the ability to test and explain, should be demonstrated in the areas of: (1) visual pathways, (2) light perception, (3) colour vision, (4) space perception, (5) form perception, (6) motion perception, (7) temporal perception, and (8) basic psychophysical methods and theory.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) visual pathways			
(2) light perception			
(3) colour vision			
(4) space perception			
(5) form perception			
(6) motion perception			
(7) temporal perception			
(8) basic psychophysical methods and theory.			

Subject 7: Vision Development and Ageing

Suggested ECTS: 9

***Learning outcomes**:* The candidates should demonstrate knowledge and understanding and be able to discuss, test, explain, and advise on the human development of the visual system and its response to ageing. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) normal vision development in the infant and child, (2) normal motor development in the infant and child, (3) normal cognitive and social development in the infant and child, (4) effects of early environmental restrictions, (5) normal changes in vision with ageing, (6) anomalies of child development, (7) clinical techniques and tests to assess the development of children at various ages, (8) clinical characteristics of children who deviate from normal patterns of development, and epidemiology of developmental disorders (9) tests that diagnose vision problems which may be associated with deviations from normal patterns of development, (10) tests used by optometrists to determine a child's level of visual-perceptual development, (11) role of the optometrist and other disciplines in screening, evaluating, managing and referring children who deviate from normal patterns of development, including anomalies of binocular vision, (12) anomalies of the ageing adult, (13) clinical characteristics of changes in perceptual function (non-visual) associated with ageing, (14) symptom profiles, clinical procedures, and tests identifying changes in vision, (15) clinical management of ageing patients with multisensory loss, (16) assessment of the need for referral and consultation with other disciplines, (17) colour vision anomalies by type and prevalence, (18) colour vision tests used for both screening and diagnosis of congenital colour vision anomalies, (19) conditions for colour vision testing, (20) societal implications of colour vision anomalies, (21) assessment of the need for referral and consultation with other disciplines, (22) the special examination needs of patients with learning- and other disabilities, (23) the special examination needs of patients with severe visual field defects, (24) the application of complex low vision aids, e.g., spectacle-mounted telescopes, CCTV, (25) the techniques used in fitting contact lenses to patients requiring complex visual correction, (26) the assessment of visual function, including the use of specialist charts for distance and near vision, and the effects of lighting, contrast and glare.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) normal vision development in the child,			
(2) normal motor development in the infant and child,			
(3) Normal cognitive and social development in the infant and child,			
(4) effects of early environmental restrictions,			
(5) normal changes in vision with ageing,			
(6) anomalies of child development,			
(7) clinical techniques and tests to assess the development of children at various ages,			

(8) clinical characteristics of children who deviate from normal patterns of development, and epidemiology of developmental disorders,			
(9) tests that diagnose vision problems which may be associated with deviations from normal patterns of development,			
(10) tests used by optometrists to determine a child's level of visual-perceptual development			
(11) role of the optometrist and other disciplines in screening, evaluating, managing and referring children who deviate from normal patterns of development, including anomalies of binocular vision,			
(12) anomalies of the ageing adult,			
(13) clinical characteristics of changes in perceptual function (non-visual) associated with ageing,			
(14) symptom profiles, clinical procedures, and tests identifying changes in vision,			
(15) clinical management of ageing patients with multisensory loss,			
(16) assessment of the need for referral and consultation with other disciplines,			
(17) colour vision anomalies by type and prevalence,			
(18) colour vision tests used for both screening and diagnosis of congenital colour vision anomalies,			
(19) conditions for colour vision testing,			
(20) societal implications of colour vision anomalies,			
(21) assessment of the need for referral and consultation with other disciplines,			
(22) the special examination needs of patients with learning and other disabilities,			
(23) the special examination needs of patients with severe visual field defects,			

(24) the application of complex low vision aids, e.g., spectacle-mounted telescopes, CCTV,			
(25) the techniques used in fitting contact lenses to patients requiring complex visual correction,			
(26) the assessment of visual function, including the use of specialist charts for distance and near vision, and the effects of lighting, contrast and glare.			

Subject 8: Refraction (European Diploma Section B1)

Suggested ECTS: 12

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and refract patients in the most suitable way. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) different refractive states of the eye, (2) mechanisms of presbyopia, (3) anamnesis, (4) preliminary testing, (5) objective static and dynamic refractive status, including automatic refractive devices, (6) standard subjective refraction procedures, including astigmatic axis, crossed cylinders, stenopaic slit, fogging methods and equalisation (duo chrome) techniques, (7) binocular subjective refraction procedures, including accommodation binocular balancing methods, (8) cycloplegic subjective and objective techniques, (9) automatic computer assisted subjective procedures, laser refraction and variations in procedures for the various ametropias, (10) identification, treatment and management using spectacle and contact lenses and prognosis, and (11) observation and recognition of clinical signs, and techniques and skills for determining the near add.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) different refractive states of the eye,			
(2) mechanisms of presbyopia,			
(3) anamnesis,			
(4) preliminary testing,			
(5) objective static and dynamic refractive status, including automatic refractive devices,			
(6) standard subjective refraction procedures, including astigmatic axis, crossed cylinders, stenopaic slit, fogging methods and equalisation (duo chrome) techniques,			
(7) binocular subjective refraction procedures, including accommodation binocular balancing methods,			
(8) cycloplegic subjective and objective techniques,			
(9) automatic computer assisted subjective procedures, laser refraction and variations in procedures for the various ametropias,			
(10) identification, treatment and management using spectacle and contact lenses and prognosis,			

(11) observation and recognition of clinical signs, and techniques and skills for determining the near add.			

Subject 9: Low Vision

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and manage patients whose vision cannot be improved significantly using conventional spectacles or contact lenses, in order to make the most of their residual vision using magnifying systems and imaging technology. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) definitions and regulations of low vision, (2) incidence and causes, (3) measurement of visual performance, including the use of specialist charts, (4) magnification, non-optical aids, (5) illumination and lighting, (6) aids for peripheral field, (7) eccentric viewing and steady eye strategy, (8) environmental modification, and (9) clinical procedures.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) definitions and regulations of low vision,			
(2) incidence and causes,			
(3) measurement of visual performance, including the use of specialist charts,			
(4) magnification, non-optical aids,			
(5) illumination and lighting,			
(6) aids for peripheral field,			
(7) eccentric viewing and steady eye strategy,			
(8) environmental modification			
(9) clinical procedures.			

Subject 10: Ocular Motility and Binocular Vision

Suggested ECTS: 10

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and manage patients who suffer from binocular vision problems and who are at risk of developing binocular vision problems. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) nature of binocular vision anomalies, (2) binocular vision routine examination, (3) examination of young children, (4) evaluation and management of heterophoria, (5) evaluation and management of heterotropia (strabismus), and (6) examination and management of incomitant deviations and nystagmus.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) nature of binocular vision anomalies,			
(2) binocular vision routine examination,			
(3) examination of young children,			
(4) evaluation and management of heterophoria,			
(5) evaluation and management of heterotropia (strabismus)			
(6) examination and management of incomitant deviations and nystagmus.			

Subject 11: Contact Lenses

Suggested ECTS: 12

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss and undertake examinations and management of patients wanting to wear or who are already wearing contact lenses. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) treatment and management of refractive/oculomotor/sensory integrative conditions using contact lenses, (2) lens types and materials: hard lenses; haptics; lathecut, moulded, and spincast soft lenses, (3) optics of contact lenses: curves, zones, widths and tear lens effects, sagittal depth; centre and edge thickness; flex, asphericity and toric designs and quadrantic specific designs, and oblong geometries with reverse curves, (4) theories and methods of fitting: lens design, specifications of orders, lens verification and evaluation, insertion and removal techniques, design of wearing schedules, fluorescein evaluation and fitting criteria, (5) patient selection based upon history, analysis of primary care data, correlations of data, facial physiognomy, and contraindications; and management based upon education and patient handling and control, (6) the examination of a new prospective contact lens patient, the anterior segment examination and measurement, (7) contact lens selection from presently available types and forms of lenses, (8) care of lenses; handling; cleaning; preservatives available; disinfection methods and solutions, (9) follow-up care; adaptation, physiologic and post-fitting complications, allergic responses, lens changes and mechanical problems, (10) bifocal and astigmatic contact lenses; types, basis of selection and adaptation, techniques of fitting, and care for each, (11) specially designed lenses and fitting procedures for keratoconus and irregular corneas, for keratoplastic and after refractive surgeries, sports vision, diseased and traumatic corneas, cosmetic (prosthetic) use, iris colour changes and colour vision deficiencies, (12) specially designed lenses and fitting procedures for orthokeratologie, and (13) parameter modification in theory and practice. (14) fitting procedures for myopia control

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) treatment and management of refractive/oculomotor/sensory integrative conditions using contact lenses,			
(2) lens types and materials: hard lenses; haptics; lathecut, moulded, and spincast soft lenses,			
(3) optics of contact lenses: curves, zones, widths and tear lens effects, sagittal depth; centre and edge thickness; flex, asphericity and toric designs and quadrantic specific designs, and oblong geometries with reverse curves,			

(4) theories and methods of fitting: lens design, specifications of orders, lens verification and evaluation, insertion and removal techniques, design of wearing schedules, fluorescein evaluation and fitting criteria,			
(5) patient selection based upon history, analysis of primary care data, correlations of data, facial physiognomy, and contraindications; and management based upon education and patient handling and control, (6) the examination of a new prospective contact lens patient, the anterior segment examination and measurement,			
(7) contact lens selection from presently available types and forms of lenses, (8) care of lenses; handling; cleaning; preservatives available; disinfection methods and solutions,			
(8) care of lenses; handling; cleaning; preservatives available; disinfection methods and solutions,			
(9) follow-up care; adaptation, physiologic and post-fitting complications, allergic responses, lens changes and mechanical problems,			
(10) bifocal and astigmatic contact lenses; types, basis of selection and adaptation, techniques of fitting, and care for each,			
(11) specially designed lenses and fitting procedures for keratoconus and irregular corneas, for keratoplastic and after refractive surgeries, sports vision, diseased and traumatic corneas, cosmetic (prosthetic) use, iris colour changes and colour vision deficiencies,			
(12) specially designed lenses and fitting procedures for orthokeratologie,			
(13) parameter modification in theory and practice.			
(14) Fitting procedures for myopia control			

Subject 12B: Investigative Techniques PART B

Suggested ECTS: 4

Learning outcomes: The candidates should demonstrate knowledge, understanding and skills, and be able to discuss and undertake examinations of patients using investigative techniques. Knowledge, understanding and testing skills should be demonstrated in areas of (1) colour vision investigation, (2) keratometry, (3) retinoscopy, (4) automatic objective refraction, (5) slit lamp examination of the external and internal eye, (6) pachymetry (non-contact), and (7) tonometry (non-contact).

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) colour vision investigation,			
(2) keratometry,			
(3) retinoscopy,			
(4) automatic objective refraction,			
(5) slit lamp examination of the external and internal eye,			
(6) pachymetry (non-contact),			
(7) tonometry (non-contact)			

Subject 13: Paediatrics

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and manage children in an optometric setting. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) paediatric communication skills, (2) assessment of visual acuity, (3) refractive examination, (4) myopia, (5) binocular vision disorders, (6) paediatric eye disorders, (7) spectacle dispensing, (8) contact lenses, and (9) low vision assessment and management.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) paediatric communication skills,			
(2) assessment of visual acuity,			
(3) refractive examination,			
(4) myopia,			
(5) binocular vision disorders,			
(6) paediatric eye disorders,			
(7) spectacle dispensing,			
(8) contact lenses,			
(9) low vision assessment and management.			

Subject 14B: Refractive Surgery PART B

Suggested ECTS: 1

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and undertake examinations and management of patients wanting to undergo or who have undergone refractive surgery. Knowledge, understanding and testing skills should be demonstrated in the areas of (1) patient counselling and (2) pre- and post-operative assessments.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) patient counselling,			
(2) pre- and post-operative assessments,			

PART B: Clinical/practical European Diploma competencies.

Subject 8: Refraction

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to take an accurate history from patients with a range of optometric conditions.				
2	The ability to obtain and interpret information on significant symptoms and patient's concerns.				
3	The ability to obtain and interpret information on relevant family history.				
4	The ability to obtain and interpret information on issues pertaining to the patient's general health, medication, work, sports, hobbies, lifestyle and special needs.				
5	The ability to explore the patient's understanding of their visual problems and impart to patients an explanation of their physiological or pathological eye condition.				

6	An ability to understand and recognise a patient's fears, anxieties and concerns about their visual welfare, the eye examination and the possible ocular side effects of medication.				
7	An ability to understand and recognise the patient's expectations and aspirations and manage empathetically situations where these cannot be met.				
8	The ability to communicate with patients who have poor, or non-verbal, communication skills, or those who are confused, reticent or who might mislead.				
9	The ability to communicate bad news to patients in an empathetic and understandable way.				
10	The ability to manage patients in a safe, ethical and confidential fashion.				
11	The ability to create and to keep clear, accurate and contemporaneous patient records.				
12	The ability to interpret and respond appropriately to existing records.				
13	The ability to make a judgement regarding referral and an understanding of referral pathways.				
14	The ability to demonstrate an understanding of the legal, professional and ethical obligations of a registered optometrist.				

15	The ability to refract patients by appropriate objective and subjective means.				
16	The ability to make appropriate prescribing and management decisions based on the refractive and oculomotor status.				
17	The ability to use appropriate ocular diagnostic drugs to aid refraction if and when needed.				
18	An understanding of the special examination needs of patients with learning and other disabilities.				
19	An understanding of the special examination needs of patients with severe visual field defects.				
20	The ability to manage non-tolerance cases (including referral when appropriate)				

Subject 9: Low Vision

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to take an accurate history from patients with a range of low vision conditions.				
2	The ability to obtain and interpret information on significant symptoms pertinent to low vision conditions and patient's concerns.				
3	The ability to obtain and interpret information on relevant family history pertinent to low vision conditions.				
4	The ability to assess patients with impaired visual function.				
5	The ability to advise visually impaired patients about their impairment, disability or handicap.				
6	The ability to advise on the use of, and to dispense simple low vision aids including: hand and stand magnifiers, typoscopes and hand held telescopes.				
7	The ability to advise on the use of and to dispense complex spectacle lens forms, including: multifocals, high corrections, and their applications to specific patient needs.				

8	The ability to advise on the use of optical and non-optical aids to achieve object enlargement types of magnification (e.g., CCTV or digital tablets).				

Subject 10: Ocular Motility and Binocular Vision

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to assess binocular status (accommodation, vergence and motility/eye movement) using objective and subjective tests.				
2	The ability to manage a patient presenting with an incomitant deviation (i.e. an anomaly of the extra-ocular muscles).				
4	The ability to investigate and manage adult patients presenting with heterophoria.				
5	The ability to manage an adult patient with heterotropia.				
6	The ability to manage children at risk of developing an anomaly of binocular vision.				
7	The ability to manage patients presenting with an anomaly of binocular vision.				

Subject 11: Contact Lenses

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to insert and remove rigid gas permeable and soft contact lenses and instruct patients in these procedures.				
2	The ability to fit soft contact lenses.				
3	The ability to manage the aftercare of patients wearing soft contact lenses.				
4	The ability to advise on contact lens materials and care regimes.				
5	The ability to manage the aftercare of patients wearing rigid gas permeable contact lenses.				
6	The ability to fit rigid gas permeable contact lenses.				
7	The ability to fit contact lenses to patients with astigmatism.				
8	The ability to fit contact lenses to patients with presbyopia.				
9	The ability to manage non-tolerance cases (including referral when appropriate).				
10	The ability to manage patients in a safe, ethical, and confidential fashion.				

11	The ability to create and keep clear, accurate, and contemporaneous patient records				
12	The ability to interpret and respond appropriately to existing records.				
13	The ability to make a judgement regarding referral and an understanding of referral pathways.				
14	The ability to demonstrate an understanding of the legal, professional, and ethical obligations of an optician/ optometrist				
15	The ability to fit contact lenses for myopia control				

Subject 12B: Investigative Techniques PART B

In addition to the clinical/practical competencies listed below the candidate should be able to use, interpret, and explain the results of (at least) the following ophthalmic instruments:

- **Retinoscope**
- **Ophthalmoscope**
- **Keratometer**
- **Pachymeter**
- **Slit-lamp (including the use of an extra lens to evaluate the fundus)**
- **Non-contact tonometry**

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to assess a patient's colour vision and to determine whether it achieves the standards required by various vocational groups and whether there is a macular problem.				
2	The ability to use instruments in ocular examination and to understand the implications of the findings in terms of subsequent examination techniques.				
3	The ability to assess the external eye and adnexa.				
4	The ability to assess the tear film				
5	The ability to assess pupil reactions.				
6	The ability to use instruments to measure central and peripheral corneal curvature and thickness.				

7	The ability to assess the internal eye				
8	The ability to detect anterior chamber signs of ocular inflammation.				
9	The ability to use non-contact tonometers to measure intraocular pressure and analyse and interpret the results				

Subject 13: Paediatrics

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to take an accurate history from patients with a range of optometric conditions specific to children and infants.				
2	The ability to obtain and interpret information on significant symptoms pertinent to paediatric conditions and patient's or parent's concerns.				
3	The ability to obtain and interpret information on relevant family history pertinent to paediatric conditions.				
4	The ability to obtain and interpret information on patient's general health, medication, school work, sports, hobbies, lifestyle, and special needs pertinent to children and infants.				
5	Demonstrate an understanding of techniques for assessment of vision in infants.				
6	The ability to assess children's (not infants) visual function using appropriate techniques.				
7	The ability to manage (or treat) children (not infants) with impaired visual function (using appropriate techniques or referral).				

Subject 14: Refractive Surgery

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to properly advise on refractive surgery options and possible outcomes.				
2	The ability to identify corneal ectasia and dystrophies and other contraindications to refractive surgery.				
3	The ability to perform the techniques used in the pre-operative assessments.				
4	The ability to manage the aftercare of patients having undergone refractive surgery.				
5	The ability to identify post-operative complications.				
6	The ability to manage refractive surgery patients in a safe, ethical, and confidential fashion.				
7	The ability to create and keep clear, accurate, and contemporaneous patient records.				
8	The ability to interpret and respond appropriately to existing records.				
9	The ability to make a judgement regarding referral and an understanding of referral pathways.				

10	The ability to demonstrate an understanding of the legal, professional, and ethical obligations of an optician / optometrist.				

PART C:

Biological and Medical Sciences

PART C: Knowledge base for the European Diploma competencies.

Subject 12C: Investigative Techniques PART C

Suggested ECTS: 8 ECTS

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss and undertake examinations of patients using investigative techniques. This are covers all procedures and topics covered in subject 12 of Part B. Furthermore, knowledge, understanding and testing skills should be demonstrated in the areas of: (1) slit lamp examination of the external and internal eye, (2) pachymetry (contact and non-contact), (3) tonometry (contact and non-contact), (4) direct ophthalmoscopy, (5) monocular indirect ophthalmoscopy, (6) binocular indirect ophthalmoscopy, (7) gonioscopy, (8) lacrimal system evaluation, (9) fundus evaluation with different ophthalmic instruments (including but not limited to OCT, SLO, FAF,etc), and (10) quantitative perimetry.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) slit lamp examination of the external and internal eye,			
(2) pachymetry (contact and non-contact),			
(3) tonometry (contact and non-contact),			
(4) direct ophthalmoscopy,			
(5) monocular indirect ophthalmoscopy,			
(6) binocular indirect ophthalmoscopy,			
(7) gonioscopy,			
(8) lacrimal system evaluation,			
(9) fundus evaluation with different ophthalmic instruments (including but not limited to OCT, SLO, FAF,etc),			
(10) quantitative perimetry.			

Subject 14C: Refractive Surgery PART C

Suggested ECTS: 1

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss, explain, and undertake examinations and management of patients wanting to undergo or who have undergone refractive surgery. Knowledge, understanding and testing skills should be demonstrated in the areas of (1) patient counselling and (2) pre- and post-operative assessments. Knowledge and understanding should be demonstrated in the (3) different treatment options and (4) postoperative complications.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) patient counselling,			
(2) pre- and post-operative assessments,			
(3) different treatment options,			
(4) postoperative complications.			

Subject 15: General Anatomy and Histology

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into general anatomy and histology to be able to understand and explain anatomy and histology. Knowledge and understanding should be demonstrated in the areas of: (1) head and skull (muscles, arteries, veins, lymphs, cranial nerves, sinuses, vestibular system, (2) cells (membranes, compartments, organelles, stem cells, cell differentiation), and (3) tissues (epithelium, glands, connective tissue, muscle, blood, nerves).

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) head and skull (muscles, arteries, veins, lymphs, cranial nerves, sinuses, vestibular system,			
(2) cells (membranes, compartments, organelles, stem cells, cell differentiation),			
(3) tissues (epithelium, glands, connective tissue, muscle, blood, nerves).			

Subject 16: Neuroscience

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into the area of neuroscience to be able to understand and explain the nervous system. Knowledge and understanding should be demonstrated in the areas of: (1) electrophysiology of the nerve cells (resting and action potential, synapses, receptors), (2) neuroanatomy (brain, cranial nerves, spinal cord, autonomic nervous system), and (3) neurophysiology (reflexes, pain and sensation, vestibular system, proprioceptive sensation, autonomic nervous system).

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) electrophysiology of the nerve cells (resting and action potential, synapses, receptors),			
(2) neuroanatomy (brain, cranial nerves, spinal cord, autonomic nervous system),			
(3) neurophysiology (reflexes, pain and sensation, vestibular system, proprioceptive sensation, autonomic nervous system).			

Subject 17: General Physiology and Biochemistry

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into physiology and biochemistry to be able to understand and explain general anatomy and physiology. Knowledge and understanding should be demonstrated in the areas of: (1) respiration, (2) gastrointestinal activity, (3) muscles, (4) body fluids, (5) renal system, (6) circulatory system, (7) endocrine system, (8) proteins, (9) carbohydrates, (10) lipids, (11) molecular biology, (12) bioenergetics, and (13) genetics and hereditary patterns.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) respiration,			
(2) gastrointestinal activity,			
(3) muscles,			
(4) body fluids,			
(5) renal system,			
(6) circulatory system,			
(7) endocrine system,			
(8) proteins,			
(9) carbohydrates,			
(10) lipids,			
(11) molecular biology, and			
(12) bioenergetics.			
(13) genetics and hereditary patterns.			

Subject 18: General Microbiology and Immunology

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into general microbiology and immunology. Knowledge and understanding should be demonstrated in the areas of: (1) virology, (2) bacteriology, (3) mycology, (4) parasitology, (5) antigens and antibodies, (6) complement system, (7) non-specific immunity, (8) specific immunity, (9) hypersensitivity response, and (10) autoimmunity.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) virology,			
(2) bacteriology,			
(3) mycology,			
(4) parasitology,			
(5) antigens and antibodies,			
(6) complement system,			
(7) non-specific immunity,			
(8) specific immunity,			
(9) hypersensitivity response, and			
(10) autoimmunity.			

Subject 19: General Pharmacology

Suggested ECTS: 6

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into general pharmacology to be able to understand and explain general pharmacology. Knowledge and understanding should be demonstrated in the areas of: (1) pharmacokinetics, (2) pharmacodynamics, (3) drugs acting on the autonomic nervous system, (4) analgetics and local anesthetics, (5) antipyretics and anti-inflammatory drugs, (6) antibiotics, (7) antiviral drugs, (8) antiallergic drugs, (9) drugs affecting respiratory and cardiovascular systems, (10) antiseptics, disinfectants, preservatives, (11) common systemic side effects of medications, and (12) general health.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) pharmacokinetics,			
(2) pharmacodynamics,			
(3) drugs acting on the autonomic nervous system,			
(4) analgetics and local anesthetics,			
(5) antipyretics and anti-inflammatory drugs,			
(6) antibiotics,			
(7) antiviral drugs,			
(8) antiallergic drugs,			
(9) drugs affecting respiratory and cardiovascular systems,			
(10) antiseptics, disinfectants, preservatives,			
(11) common systemic side effects of medications,			
(12) general health.			

Subject 20: Pathology and General Medical Disorders

Suggested ECTS: 12

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into general pathology and general medical disorder and how they can affect the eye to be able to understand and explain pathology and general medical disorders. Knowledge and understanding should be demonstrated in the areas of: (1) inflammation and repair, (2) cardiovascular diseases and the eye, (3) blood diseases and the eye, (4) endocrine diseases and the eye, (5) neurological diseases and the eye, (6) nutritional disorders, (7) rheumatoid disorders, vasculitis and collagenosis, (8) infectious diseases, (9) tumours, and (10) congenital and hereditary conditions.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) inflammation and repair,			
(2) cardiovascular diseases and the eye,			
(3) blood diseases and the eye,			
(4) endocrine diseases and the eye,			
(5) neurological diseases and the eye,			
(6) nutritional disorders			
(7) rheumatoid disorders, vasculitis and collagenosis			
(8) infectious diseases,			
(9) tumours,			
(10) congenital and hereditary conditions.			

21: Epidemiology and Biostatistics

Suggested ECTS: 3

***Learning outcomes**:* The candidates should demonstrate fundamental knowledge and insight into epidemiology and biostatistics, not only for application in laboratory experiments and research, but also for understanding how to interpret clinical evidence in optometric practice. Knowledge and understanding should be demonstrated in the areas of: (1) epidemiological data (incidence and prevalence, odds, relative risk, central tendency and variability), (2) screening concepts (sensitivity and specificity, predictive value, yield), (3) research design, and (4) morbidity and mortality.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) epidemiological data (incidence and prevalence, odds, relative risk, central tendency and variability),			
(2) screening concepts (sensitivity and specificity, predictive value, yield),			
(3) research design,			
(4) morbidity and mortality.			

Subject 22: Ocular Anatomy and Physiology

Suggested ECTS: 9

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss and explain in detail the anatomy and physiology of the eye. Knowledge and understanding regarding structure and function, and development and ageing, should be demonstrated in the areas of: (1) orbit, (2) extraocular muscles, (3) ocular blood supply, (4) ocular and orbital nerves, (5) eyelid, (6) eyebrow, (7) conjunctiva, (8) lacrimal system, (9) cornea, (10) sclera and episclera, (11) anterior chamber and angle, (12) iris, (13) pupil and posterior chamber, (14) ciliary body, (15) lens and zonules, (16) choroid, (17) vitreous, (18) retina (including its layers and anatomical landmarks, e.g., macula, fovea, foveola etc.), (19) optic nerve, and (20) visual pathways.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) orbit,			
(2) extraocular muscles,			
(3) ocular blood supply,			
(4) ocular and orbital nerves,			
(5) eyelid,			
(6) eyebrow,			
(7) conjunctiva,			
(8) lacrimal system,			
(9) cornea,			
(10) sclera and episclera,			
(11) anterior chamber and angle,			
(12) iris,			
(13) pupil and posterior chamber,			
(14) ciliary body,			
(15) lens and zonules,			
(16) choroid,			
(17) vitreous,			

(18) retina (including its layers and anatomical landmarks, e.g., macula, fovea, foveola, etc.),			
(19) optic nerve, and			
(20) visual pathways.			

Subject 23: Ocular Pharmacology

Suggested ECTS: 6

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to discuss and manage patients when diagnostic drugs are indicated. Knowledge, understanding and testing skills should be demonstrated in the areas of: (1) factors affecting drug absorption, (2) cycloplegics, (3) mydriatics, (4) miotics, (5) local anaesthetics, (6) vital staining agents, (7) antimicrobial agents, (8) contact lens solutions, (9) tear film substitutes, (10) decongestants, antihistamines and anti-inflammatory components, (11) ocular effects of local and systemic drugs, (12) first-aid and emergency measures used by optometrists, (13) and handling of side-effects of diagnostic drugs.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) factors affecting drug absorption,			
(2) cycloplegics,			
(3) mydriatics,			
(4) miotics,			
(5) local anaesthetics,			
(6) vital staining agents,			
(7) antimicrobial agents,			
(8) contact lens solutions,			
(9) decongestants, antihistamines and anti-inflammatory components,			
(10) tear film substitutes,			
(11) ocular effects of local and systemic drugs ,			
(12) first-aid and emergency measures used by optometrists			
(13) handling of side-effects of diagnostic drugs			

Subject 24: Abnormal Ocular Conditions

Suggested ECTS: 12

***Learning outcomes**:* The candidates should demonstrate knowledge, understanding and skills, and be able to detect and manage patients presenting with abnormal ocular conditions. Knowledge and understanding of risk factors and treatment should be demonstrated of ocular pathology affecting: (1) orbit, (2) ocular adnexa, (3) lacrimal system, (4) conjunctiva, (5) cornea, (6) sclera and episclera, (7) anterior uvea (iris and ciliary body), (8) pupillary, accommodative and refractive pathology, (9) anterior chamber, angle structures and IOP, (10) lens, (11) vitreous, (12) choroid, (13) retina (including abnormal ocular conditions affecting its different layers and anatomical landmarks, e.g., macula, fovea, foveolar, mid-periphery, periphery etc.), (14) optic nerve and the optic nerve head, (15) sensory neuro-visual pathology, and (16) oculomotor neuropathology, and (17) systemic diseases affecting the eye.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) orbit,			
(2) ocular adnexa,			
(3) lacrimal system,			
(4) conjunctiva,			
(5) cornea,			
(6) sclera and episclera,			
(7) anterior uvea (iris and ciliary body),			
(8) pupillary, accommodative and refractive pathology,			
(9) anterior chamber, angle structure and IOP,			
(10) lens,			
(11) vitreous,			
(12) choroid			
(13) retina (including abnormal ocular conditions affecting its different layers and anatomical landmarks, e.g., macula, fovea, foveolar, mid-periphery, periphery etc.)			
(14) optic nerve and the optic nerve head,			
(15) sensory neuro-visual pathology,			

(16) oculomotor neuropathology,			
(17) systemic diseases affecting the eye.			

PART C: Clinical/practical European Diploma competencies.

Subject 12C: Investigative techniques PART C

In addition to the clinical/practical competencies listed below the candidate should be able to use, interpret, and explain the results of (at least) the following ophthalmic instruments:

- **Retinoscope**
- **Ophthalmoscope**
- **Keratometer**
- **Pachymeter**
- **Slit-lamp (including the use of an extra lens to evaluate the fundus)**
- **Gonioscopy**
- **Automated visual field test**
- **Ocular coherence tomography (OCT)**
- **Fundus camera**
- **Non-contact and contact applanation tonometer**

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to assess a patient's colour vision and to determine whether it achieves the standards required by various vocational groups and whether there is a macular problem.				
2	The ability to use instruments in ocular examination and to understand the implications of the findings in terms of subsequent examination techniques.				
3	The ability to assess the external eye and adnexa.				

4	The ability to assess the tear film				
5	The ability to assess pupil reactions.				
6	The ability to use diagnostic drugs to aid ocular examination.				
7	The ability to use instruments to measure central and peripheral corneal curvature and thickness (non-contact and contact)				
8	The ability to examine the central and peripheral fundus with different observation techniques				
9	The ability to assess the internal eye				
10	The ability to make an assessment of the fundus in the presence of media opacities.				
11	The ability to detect anterior chamber signs of ocular inflammation.				
12	The ability to assess and interpret visual fields of patients with normal, sub-optimal, or reduced visual acuity.				
13	The ability to use non-contact and applanation tonometers to measure intraocular pressure and analyse and interpret the results				

Subject 24: Abnormal Ocular Conditions

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to interpret and investigate the presenting symptoms and concerns of the patient.				
2	The ability to develop a management plan for the investigation of the patient.				
3	The ability to identify external pathology and offer appropriate information and advice to patients not needing referral.				
4	The ability to recognise common ocular abnormalities and to refer when appropriate.				
5	The ability to manage a patient presenting with a red eye.				
6	The ability to manage a patient presenting with reduced vision.				
7	The ability to identify abnormal colour vision and to appreciate its significance.				
8	The ability to manage a patient presenting with cataract.				
9	The ability to evaluate glaucoma risk factors, to detect glaucoma and refer accordingly.				
10	The ability to manage a patient presenting with macular degeneration or other macular disease.				

11	The ability to recognise, evaluate and manage diabetic eye disease and refer accordingly.				
12	The ability to evaluate and manage a patient presenting with symptoms suggestive of retinal detachment.				
13	The ability to recognise manifestations of systemic disease.				
14	The ability to assess symptoms and signs of neurological significance.				
15	The ability to manage patients presenting with sight-threatening eye disease.				
16	An ability to recognise adverse ocular reactions to medication.				
17	The ability to recognise, evaluate and manage optic nerve and optic nerve head disease and refer accordingly.				

Part D:

INTEGRAL COMPETENCIES

Integral competencies: Knowledge base for the European Diploma competencies.

Subject 25: Communication

Suggested ECTS: 2

Learning outcome: The candidates should demonstrate fundamental knowledge and insight in (1) different commucation styles, (2) verbal and non-verbal communication, (3) cultural differences, and (4) cross-cultural communication techniques.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) different commucation styles,			
(2) verbal and non-verbal communication,			
(3) cultural differences,			
(4) cross-cultural communication techniques.			

Subject 26: Professional Conduct

Suggested ECTS: 1

Learning outcome: The candidates should demonstrate fundamental understanding, knowledge, accountability, and responsibility of (1) the legal obligations for optometric practice, (2) the ethical and cultural standard, (3) a safe environment through quality assurance and risk management strategies, (4) using strategies to promote health and prevent illnesses, and (5) participating in continuing professional development activities to maintain competencies and knowledge in areas of optometric practice.

Learning outcomes	**Where in the programme?**	**Credit weighting?**	**Method of assessment?**
(1) the legal obligations for optometric practice,			
(2) the ethical and cultural standard,			
(3) a safe environment through quality assurance and risk management strategies,			
(4) using strategies to promote health and prevent illnesses,			
(5) participating in continuing professional development activities to maintain competencies and knowledge in areas of optometric practice.			

Integral competencies: Clinical/practical European Diploma competencies.

Subject 25: Communication

Learning outcome: The candidates should demonstrate the ability to communicate effectively with the patient using a broad range of communication styles appropriate to the educational level, cognitive ability, and age profile of the patient. The candidates are competent to (1) communicate in a respectful tone and manner, (2) listen actively and communicates effectively, (3) listen and ask questions to understand the patient's concerns and viewpoints, (4) communicate in a timely manner, (5) be aware of and responsive to verbal and non-verbal communication, (6) recognise and adjust to cultural differences, and (7) use effective cross-cultural communication skills if appropriate. The candicate is able to (8) communicate with a diverse group of patients with a range of ophthalmic conditions and needs and (9) to provide information in a way which is appropriate to the patient.

	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to communicate in a respectful tone and manner,				
2	The ability to listen actively and to communicate effectively,				
3	The ability to listen and ask questions to understand the patient's concerns and viewpoints,				
4	The ability to communicate in a timely manner,				
5	The ability to be aware of and responsive to verbal and non-verbal communication,				
6	The ability to recognise and adjust to cultural differences,				
7	The ability to use effective cross-cultural communication skills if appropriate.				
8	The abiltiy to communicate with a diverse group of patients with a range of ophthalmic conditions and needs				

9	The ability to provide information in a way which is appropriate to the patient.				
10	The ability to break bad news in an appropriate and considerate manner				

Subject 26: Professional Conduct

Learning outcome: The candidates should demonstrate fundamental understanding, knowledge, accountability, and responsibility of (1) the legal obligations for optometric practice, (2) the ethical and cultural standard, (3) a safe environment through quality assurance and risk management strategies, (4) using strategies to promote health and prevent illnesses, and (5) participating in continuing professional development activities to maintain competencies and knowledge in areas of optometric practice.					
	Clinical/practical competencies:	**Competency assessment**		**Clinical experience**	
		How assessed?	**Where in the programme?**	**Number of patients examined?**	**Record kept?**
1	The ability to look after patients in a safe, appropriate and confidential environment				
2	The ability to communicate by adhering to appropriate ethical and cultural standards				
3	The ability to comply with legal, professional and ethical issues relating to practice				

END