Basic Competency for Entry-Level Optometrists
Curriculum Committee
School of Optometry
The University of Alabama at Birmingham

Introduction
The fundamental goal of the School of Optometry of the University of Alabama at Birmingham is to educate men and women as optometrists to serve the primary vision and eye care needs of the public. This document represents the consensus of the curriculum committee of the basic attributes and learning objectives necessary in achieving this goal. An appropriate curriculum is derived from these attributes via these learning objectives.

These individuals must be capable of independent optometric practice and demonstrate the following:

- knowledge of basic biomedical, behavioral and clinical sciences, especially as it relates to vision and the eye;
- cognitive and motor skills; and,
- professional and ethical values.

The goals and learning objectives listed below will be modified to meet the evolving needs of the profession. The curriculum must reflect the frequency and criticality of the conditions that the optometrist will encounter. An expanded list of conditions is included in Appendix 1. A partial list of conditions contained in many of the basic competencies described below is included in Appendix 2.

Knowledge & Skill
Knowledge is understanding a given area. The entry-level optometrist must be knowledgeable of basic biomedical, behavioral and clinical sciences, especially as it relates to vision. Skill is ability, proficiency or expertise in using knowledge to perform within a certain context. The entry-level optometrist must have appropriate cognitive and motor skills in the prevention, diagnosis, treatment and management of clinical conditions within the scope of optometric practice.

The entry-level Optometrist must understand and have skill in the prevention, diagnosis, treatment and management of:

1. systemic conditions and processes which relate to vision
2. ocular conditions and processes
3. optics and lens systems and their application to vision
4. anomalies of vision using contact lenses.
5. sensory and motor processes of vision
6. public health, ethical, legal and administrative issues as applied to optometry
7. issues concerning clinical care of patients.

**Professional and Ethical Values**

Professional and ethical values describe qualities necessary for the full and appropriate application of knowledge and skills to the scope of optometric practice.

The entry-level optometrist must demonstrate appropriate:

8. personal professional and ethical values
9. values towards people
10. community-related values

**Conclusion**

Defining the goals and objectives of optometric education is extraordinarily important. This curriculum will provide the entry-level optometrist with appropriate knowledge and skill in every core area. This document will be successful when it achieves a clear definition of attributes to define Basic Competency for Entry-level Optometrists.
Appendix 1

Knowledge & Skill

Knowledge is understanding a given area. The entry-level optometrist must be knowledgeable of basic biomedical, behavioral and clinical sciences, especially as it relates to vision. Skill is ability, proficiency or expertise in using knowledge to perform within a certain context. The entry-level optometrist must have appropriate cognitive and motor skills in the prevention, diagnosis, treatment and management of clinical conditions within the scope of optometric practice.

The entry-level Optometrist must understand and have skill in the prevention, diagnosis, treatment and management of:

1. **systemic conditions and processes which relate to vision**
   1.1. the normal structure and function of the body and each of its organ systems emphasizing their relationship to vision
   1.2. the altered structure and function of the body and each of its organ systems emphasizing their relationship to vision
   1.3. systemic conditions which relate to vision

2. **ocular conditions and processes**
   2.1. the normal structure and function of the eye and the visual system
   2.2. the development of the eye and the visual system
   2.3. the altered structure and function of the eye, ocular adnexa and the visual system
   2.4. ocular disease conditions and trauma

3. **optics and lens systems and their application to vision**
   3.1. optics and lens systems and their application to vision
   3.2. refractive conditions
   3.3. anomalies of vision using spectacles

4. **anomalies of vision using contact lenses.**
5. **sensory and motor processes of vision**

5.1. the sensation of the external world by the visual system

5.2. motor processes of the visual system

5.3. accommodative conditions

5.4. anomalies of binocular vision and strabismus

5.5. disorders of eye movement

5.6. perceptual conditions as they relate to vision

6. **public health, ethical, legal and administrative issues as applied to optometry**

6.1. public health issues as applied to Optometry

6.2. ethical issues as applied to Optometry

6.3. legal and administrative issues as applied to Optometry

6.4. principles of human behavior

6.5. scientific methodology especially as applied to vision and its assessment

6.6. the epidemiology of systemic and ocular conditions, particularly risk factors for conditions within the scope of practice

6.7. environmental and occupational conditions

7. **issues concerning clinical care of patients**

7.1. the examination of patients

7.2. evaluating clinical data

7.3. rendering patient care decisions

7.4. effectively communicating, both orally and in writing, with patients, their families and other health professionals, as appropriate, in the care of the patient and the performance of their responsibilities including the use of new technology to gather knowledge and manage information and, the use of that understanding in making decisions about health care and optometric practice
Professional and Ethical Values

Professional and ethical values describe qualities necessary for the full and appropriate application of knowledge and skills to the scope of optometric practice.

The entry-level optometrist must demonstrate appropriate:

8. **personal professional and ethical values**
   
   8.1. (i.e., be an advocate for the visual welfare of patients and the public; be committed to life-long learning and to improving knowledge, skills and professionalism; recognize limitations of ability and knowledge; respect the confidentiality of patient information; maintain practices and records in accordance with professional standards).

9. **values towards people**
   
   9.1. (i.e., respect the inalienable rights of all people and render care independent of a patient’s economic status).

10. **community-related values**

    10.1. (i.e., be committed to organizations benefiting optometry and the visual welfare of the public and recognize the value of other professions and work in harmony with them to serve the patient’s best interest at all times).

**Conclusion**

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Appendix 2

Knowledge & Skill

Knowledge is understanding a given area. The entry-level optometrist must be knowledgeable of basic biomedical, behavioral and clinical sciences, especially as it relates to vision. Skill is ability, proficiency or expertise in using knowledge to perform within a certain context. The entry-level optometrist must have appropriate cognitive and motor skills in the prevention, diagnosis, treatment and management of clinical conditions within the scope of optometric practice.

The entry-level Optometrist must understand and have skill in the prevention, diagnosis, treatment and management of:

1. **systemic conditions and processes which relate to vision**
   
   1.1. the normal structure and function of the body and each of its organ systems emphasizing their relationship to vision
   
   1.1.1. (e.g., anatomy, histology, neuroscience, biochemistry, physiology, microbiology, immunology, pharmacology and molecular biology and genetics).

   1.2. the altered structure and function of the body and each of its organ systems emphasizing their relationship to vision
   
   1.2.1. (e.g., genetic, developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative and traumatic disorders, pathology and patho-physiology).

   1.3. systemic conditions which relate to vision
   
   1.3.1. (e.g., general health, the neurological system, the musculoskeletal system, skin and hair, head and neck, hematopoietic system, immunologic system, cardiovascular system, renal and urogenital system, gastrointestinal system, liver and biliary tract, endocrine and metabolic system, reproductive system, respiratory system, nutrition, psychosocial illness, infectious diseases and congenital and hereditary conditions).

2. **ocular conditions and processes**

   2.1. the normal structure and function of the eye and the visual system

   2.1.1. (e.g., anatomy of the eye, ocular adnexa and visual pathway, ocular physiology and biochemistry and neuro-physiology).
2.2. the development of the eye and the visual system

2.2.1. (e.g., embryology and development of the eye, ocular adnexa and visual pathways).

2.3. the altered structure and function of the eye, ocular adnexa and the visual system

2.3.1. (e.g., ametropia, presbyopia and accommodative anomalies, strabismus and oculo-motor anomalies and ocular disease and trauma (including genetic, developmental, metabolic, toxic, microbiologic, auto-immune, neoplastic, degenerative and traumatic disorders)).

2.4. ocular disease conditions and trauma

2.4.1. (e.g., the orbit, adnexa, lacrimal system; cornea and external disease; glaucoma; lens, cataract and refractive surgery; uveitis; sclera and episclera; retina and vitreous; and, neuro-ophthalmic disorders).

3. optics and lens systems and their application to vision

3.1. optics and lens systems and their application to vision

3.1.1. (e.g., geometrical optics, physical optics, ophthalmic optics, quantum optics (lasers and fluorescence) and visual optics).

3.2. refractive conditions

3.2.1. (e.g., ametropia, myopia, hyperopia, astigmatism and combinations thereof; anisometropia, presbyopia, aphakia, pseudophakia, aniseikonia and low vision).

3.3. anomalies of vision using spectacles

3.3.1. (e.g., single vision, multifocals (bifocals, trifocals, progressive & occupational lenses), coatings, tints, prism, slab-off, adds, photochromics, materials (glass, plastic, polycarbonate, high index), dress and safety lenses, ANSI standards, center and edge thickness, effectivity, design (base curve, sagittal depth)).

4. anomalies of vision using contact lenses.

4.1. anomalies of vision using contact lenses

4.1.1. (e.g., rigid and soft lenses for spherical and/or cylindrical corrections).
5. sensory and motor processes of vision

5.1. the sensation of the external world by the visual system

5.1.1. (e.g., visual perception & binocular vision).

5.2. motor processes of the visual system

5.2.1. (e.g., accommodation, ocular motility and control systems).

5.3. accommodative conditions

5.3.1. (e.g., anomalies of accommodation and accommodative vergence).

5.4. anomalies of binocular vision and strabismus

5.4.1. (e.g., sensory and/or integrative anomalies such as amblyopia, eccentric fixation, suppression, and anomalous correspondence).

5.5. disorders of eye movement

5.5.1. (e.g., nystagmus and related conditions).

5.6. perceptual conditions as they relate to vision

5.6.1. (e.g., anomalies of child development, anomalies of the aging adult, anomalies secondary to acquired neurological impairment and anomalies of color vision).

6. public health, ethical, legal and administrative issues as applied to optometry

6.1. public health issues as applied to Optometry

6.1.1. (e.g., health care systems and administration, health care policy).

6.2. ethical issues as applied to Optometry

6.2.1. (e.g., standards of professional ethics).

6.3. legal and administrative issues as applied to Optometry

6.3.1. (e.g., licensure and governmental regulation of Optometry; patient records, confidentiality of patient information, professional liability and visual disability and practice management issues and techniques).
6.4. principles of human behavior

6.4.1. (e.g., psychology and human development).

6.5. scientific methodology especially as applied to vision and its assessment

6.5.1. (e.g., formation of hypotheses and their logical conclusions, collection of data and statistics and their application to clinical practice).

6.6. the epidemiology of systemic and ocular conditions, particularly risk factors for conditions within the scope of practice

6.6.1. (e.g., epidemiology, bio-statistics and the contributions of non-biological factors in poor health such as economic, psychological, social and cultural factors).

6.7. environmental and occupational conditions

6.7.1. (e.g., environmental vision, lighting and visibility).

7. issues concerning clinical care of patients

7.1. the examination of patients

7.1.1. (e.g., patient case history and communication; visual acuity and other preliminary tests; blood pressure measurement; retinoscopy; refraction; heterophoria testing such as von Graefe phorometry and Maddox rod; accommodation testing; vergence testing; cover test evaluation; pupil testing; biomicroscopy; tonometry; occlusion (amblyopia and pressure patches); instillation of ophthalmic medications and other pharmaceutical agents; evaluating ophthalmic materials, binocular indirect ophthalmoscopy; fundus lens evaluation, gonioscopy, contact lens insertion, removal and evaluation; visual fields; ophthalmic imaging and photography; insertion and removal of lacrimal implants; ultrasound; and laboratory testing).

7.2. evaluating clinical data

7.2.1. (e.g., visual recognition and interpretation of clinical signs of ametropia, oculomotor neuropathology and strabismus; and, ocular disease and trauma).

7.3. rendering patient care decisions

7.3.1. (e.g., patient management (case history and clinical findings, diagnosis, treatment and management and prognosis and follow-up), and, patient education).
7.4. effectively communicating, both orally and in writing, with patients, their families and other health professionals, as appropriate, in the care of the patient and the performance of their responsibilities including the use of new technology to gather knowledge and manage information and, the use of that understanding in making decisions about health care and optometric practice

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