

Optometry education and scope of practice in Europe and US

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DIPARTIMENTO DI
SCIENZA DEI MATERIALI

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What is Optometry?

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EDITORIAL

What Is an Optometrist?

Just what is an optometrist? According to the American Heritage Dictionary, he or she is “a person who is professionally trained and licensed to examine the eyes for visual defects, diagnose problems or impairments, and prescribe corrective lenses or provide other types of treatment.”¹

Surely, this does not describe a 2004 American optometrist? A more appropriate definition would be more substantial and dynamic. The World Council of Optometry’s Concept of Optometry (WCO)² is as follows: Optometry is a health care profession that is autonomous, educated, and regulated (licensed/registered), and optometrists are primary health care practitioners of the eye and visual system who provide comprehensive eye and vision care, which includes refraction and dispensing, detection/diagnosis and management of disease in the eye, and the rehabilitation of conditions of the visual system.

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What is Optometry?

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WCO's Concept of Optometry

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<https://worldcouncilofoptometry.info/concept-of-optometry/>

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The scope of practice

WORLD COUNCIL OF OPTOMETRY

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A Global Competency-Based Model of Scope of Practice in Optometry

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The four categories of scopes of practice covered in this document are:

- 1. Optical Technology Services**
Management and dispensing of ophthalmic lenses, ophthalmic frames and other ophthalmic devices that correct defects of the visual system.
- 2. Visual Function Services**
Optical Technology Services plus
Investigation, examination, measurement, recognition and correction/management of defects of the visual system (note: practitioners at Level 2 are considered to be optometrists).
- 3. Ocular Diagnostic Services**
Optical Technology Services plus
Visual Function Services plus
Investigation, examination and evaluation of the eye and adnexa, and associated systemic factors, to detect, diagnose and manage disease
- 4. Ocular Therapeutic Services**
Optical Technology Services plus
Visual Function Services plus
Ocular Diagnostic Services plus
Use of pharmaceutical agents and other procedures to manage ocular conditions/disease.

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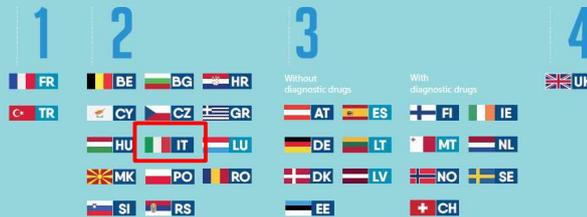
Optometry in Europe

The way the professions are organised varies across Europe due to historic reasons. In some countries the professions are combined into one profession and in others there are several subdivisions and specialisations. To enable a comparison in such a varied landscape, the World Council of Optometry (WCO) Global Competency-Based Model of Scope of Practice in Optometry has been chosen as a mechanism to classify the varying scope of practices. ECOO is the regional member of the WCO and bases its work on this model.

The WCO competency model consists of four categories. Generally speaking, Category 1 would be called "Optician" or equivalent in most countries and practitioners in Categories 2, 3 and 4 are considered "Optometrists" or equivalent.

The scope of practice increases with each level, with Category 4 being the highest level. Any category includes the competences of the level(s) below it.

CATEGORIES OF COUNTRIES BASED ON ADAPTED WCO COMPETENCY MODEL



Optometry in Italy: scope of practice



Trends in optics and optometry - comparative European data

Activity/Country	IT	BE	CY	GR	HU	IT	LU	MT	NL	NO	SE	UK
01. Objective refraction	●	●	●	●	●	●	●	●	●	●	●	●
02. Subjective refraction	●	●	●	●	●	●	●	●	●	●	●	●
03. Dispensing prescription spectacles	●	●	●	●	●	●	●	●	●	●	●	●
04. Selling optical appliances	●	●	●	●	●	●	●	●	●	●	●	●
05. Writing prescriptions for spectacles	●	●	●	●	●	●	●	●	●	●	●	●
06. Fitting contact lenses	●	●	●	●	●	●	●	●	●	●	●	●
07. Supply of contact lenses	●	●	●	●	●	●	●	●	●	●	●	●
08. Writing prescriptions for contact lenses	●	●	●	●	●	●	●	●	●	●	●	●
09. Examining the anterior eye	●	●	●	●	●	●	●	●	●	●	●	●
10. Examining the posterior eye	●	●	●	●	●	●	●	●	●	●	●	●
11. Ophthalmoscopy	●	●	●	●	●	●	●	●	●	●	●	●
12. Detecting ocular pathology	●	●	●	●	●	●	●	●	●	●	●	●
13. Using diagnostic drugs	●	●	●	●	●	●	●	●	●	●	●	●
14. Using therapeutic drugs	●	●	●	●	●	●	●	●	●	●	●	●
15. Referring to an ophthalmologist	●	●	●	●	●	●	●	●	●	●	●	●
16. Referring directly to eye hospital	●	●	●	●	●	●	●	●	●	●	●	●
17. Informing medical doctors of patients pathology	●	●	●	●	●	●	●	●	●	●	●	●
18. Non-contact tonometry	●	●	●	●	●	●	●	●	●	●	●	●
19. Contact tonometry	●	●	●	●	●	●	●	●	●	●	●	●
20. Checking binocular vision	●	●	●	●	●	●	●	●	●	●	●	●
21. Orthoptics	●	●	●	●	●	●	●	●	●	●	●	●
22. Perimetry	●	●	●	●	●	●	●	●	●	●	●	●
23. Myopia management	●	●	●	●	●	●	●	●	●	●	●	●
24. Testing drivers sight	●	●	●	●	●	●	●	●	●	●	●	●
25. Testing VDU (Visual Display Units) users	●	●	●	●	●	●	●	●	●	●	●	●
26. Fitting optical appliances for VDU (Visual Display Units) users	●	●	●	●	●	●	●	●	●	●	●	●
27. Testing sight of low vision patients	●	●	●	●	●	●	●	●	●	●	●	●
28. Prescribing low vision aids for the partially sighted	●	●	●	●	●	●	●	●	●	●	●	●
29. Testing the vision of and prescribing spectacles to children under the age of 6 years	●	●	●	●	●	●	●	●	●	●	●	●
30. Testing the vision of and prescribing spectacles to children under the age of 15 years	●	●	●	●	●	●	●	●	●	●	●	●
31. Fitting and supplying spectacles to children (0-10 years)	●	●	●	●	●	●	●	●	●	●	●	●



Optometry in Italy: scope of practice



DIRECT REFERRALS TO AN OPHTHALMOLOGIST OR MEDICAL PRACTITIONER

Although direct referrals to an ophthalmologist or medical practitioner are common practice in the majority of countries, it is a requirement by law only in some countries.

Are professionals required by law to make referrals directly to an ophthalmologist or medical practitioner?



Optometry in Italy: recognition

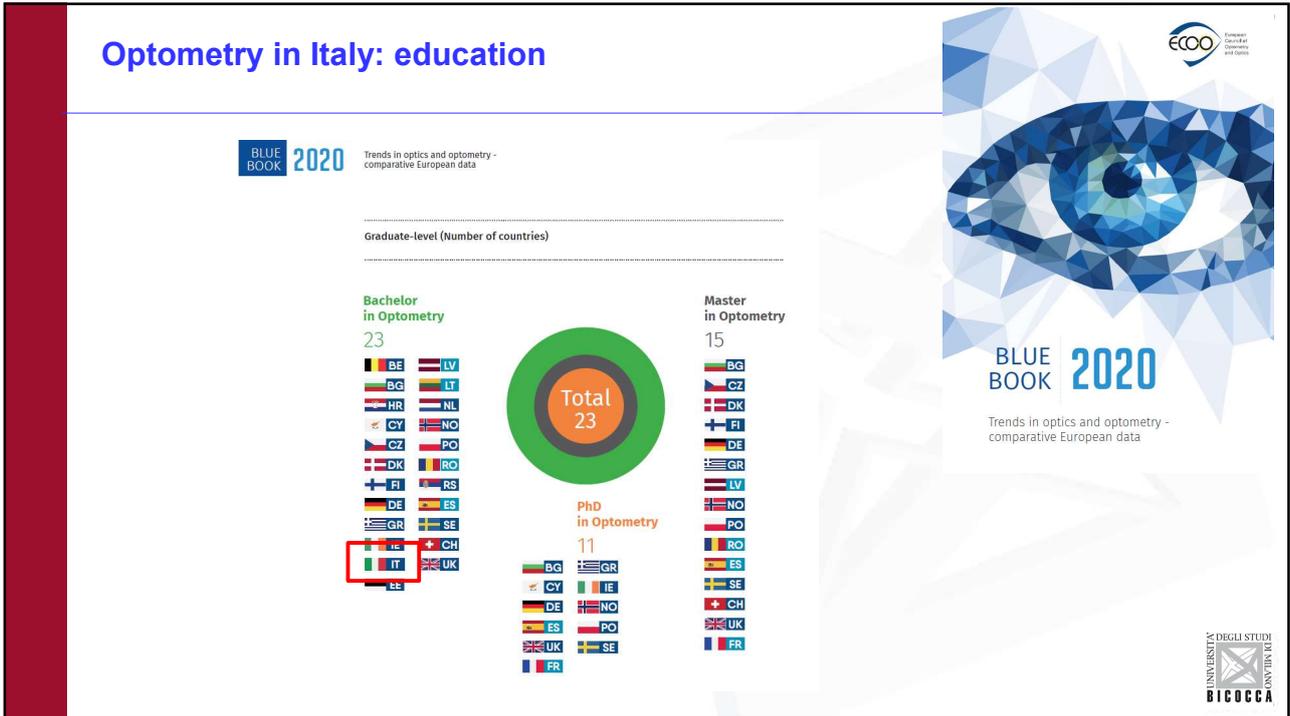


CATEGORY 2 IN DETAIL

Visual Function Services: Optical Technology Services, plus Investigation, examination, measurement, recognition and correction/management of defects of the visual system.

REGULATORY LANDSCAPE	NUMBER OF COUNTRIES
The profession is regulated by law	9 (60%)
The professional title is protected	8 (53,3%)
The profession is deregulated	2 (13,3%)
Activities are reserved to the holder of a specific professional qualification	5 (33,3%)
The profession is not yet regulated but a law is being discussed	5 (33,3%)
Total number of countries	15 (100%)

Italy: The profession of Optometrist is not yet regulated. Nevertheless optometry can be practised under general laws. The Italian optician scope of practice extends beyond dispensing as it includes refraction and contact lens fitting.



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Aston University
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The role of optometry in serving global needs

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 Editor-in-Chief, Contact Lens and Anterior Eye Journal*

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Country	Population	Ophthalmologists per Million	% Doing Surgery
Armenia	2,916,950	103	20%
Austria	8,678,657	92	25%
Azerbaijan	9,617,484	31	90%
Bahrain	1,371,855	48	32%
Belarus	9,485,772	63	10%
Bulgaria	7,177,396	120	42%
Croatia	4,236,016	98	25%
Czech Republic	10,603,762	108	35%
Denmark	5,688,695	79	75%
Egypt	93,778,172	26	90%
Estonia	1,315,321	99	20%
Georgia	3,951,524	76	50%
Germany	81,707,789	81	70%
Greece	11,217,800	178	30%
Hungary	9,783,925	109	37%
Iran	79,360,487	19	80%
Iraq	36,115,649	12	75%
Israel	8,064,547	81	90%
Kosovo	1,816,000	42	43%
Latvia	1,992,663	126	25%
Lebanon	5,851,479	42	80%
Netherlands	16,938,499	54	40%
Norway	5,199,836	68	57%
Oman	4,199,810	30	60%
Poland	38,265,226	110	8%
Republic of Moldova	4,065,980	66	30%
Romania	19,876,621	52	30%
Russian Federation	143,888,004	101	10%
Serbia	8,851,280	85	23%
Spain	46,397,664	71	80%
Sweden	9,763,565	76	40%
Switzerland	8,319,769	91	65%
Turkey	78,271,472	45	90%
United Kingdom	65,397,080	49	90%
United States	319,929,162	59	80%
Worldwide Average		29	60.2%

An estimated nearly 300 million people live with vision impairment

Uncorrected refractive errors and un-operated cataract are the top two causes of vision impairment

Un-operated cataract remains the leading cause of blindness in low- and middle-income countries

Over 80% of all vision impairment can be prevented or cured

International Council of Ophthalmology www.icoph.org

Global blindness

Figure 1. Global causes of blindness due to eye diseases, excluding refractive errors

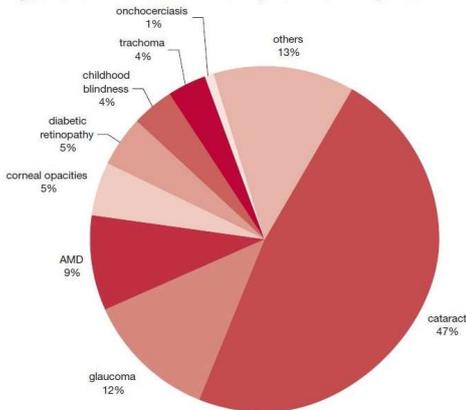
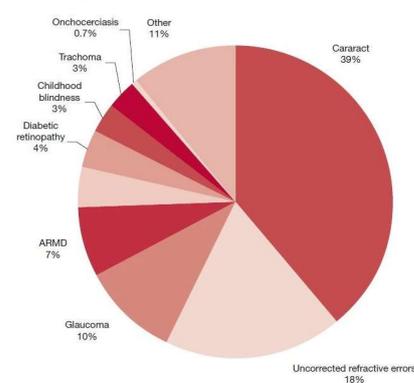


Figure 3. Global causes of blindness due to eye diseases and uncorrected refractive errors



How to implement services

- ✓ Screening service
- ✓ Diagnostic service
- ✓ Dispensing service
- ✓ Treatment service

Training requirements differ for different service delivery



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Problems faced

Training people to be screeners does not provide them with an autonomous career

People want to upskill

Training to international standards

Lack of optometry teachers and training institutes

Public perception of allied health professions

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WCO Categories of Optometric Services

<p>1. Optical Technology Services</p>	<p>2. Visual Function Services</p>	<p>3. Ocular Diagnostic Services</p>	<p>4. Ocular Therapeutic Services</p>
		a) without drugs	b) with drugs

<p><i>dispensing</i></p>	<p>dispensing refraction prescription</p>	<p>dispensing refraction prescription <i>screening for eye disease</i></p>	<p>dispensing refraction prescription <i>diagnosis of eye disease using DPA's (diagnostics)</i></p>	<p>dispensing refraction prescription diagnosis of eye disease using DPA's (diagnostics) <i>treatment of eye disease using TPA's (therapeutics)</i></p>	<p>dispensing refraction prescription diagnosis of eye disease using DPA's (diagnostics) treatment of eye disease using TPA's (therapeutics) <i>eye surgery using laser</i></p>
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The boxing system of optometry and how it applies to various EU/ECOO nations

<p><u>Box 1</u> Greece Turkey</p>	<p><u>Box 2</u> Belgium France Iceland Italy</p>	<p><u>Box 3</u> Austria Denmark Finland Germany Romania Spain Sweden</p>	<p><u>Box 4</u> Ireland Netherlands Norway Switzerland UK</p>	<p><u>Box 5</u> Australia Canada New Zealand US (UK)</p>	<p><u>Box 6</u> US (1 state)</p>
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<p>OPTICIAN</p>	<p>REFRACTING OPTICIAN</p>	<p>OPTOMETRIST</p>	<p>OPTOMETRIST</p>	<p>OPTOMETRIST DOCTOR OF OPTOMETRY (OPTOMETRIC PHYSICIAN)</p>	<p>OPTOMETRIC PHYSICIAN</p>
<p><i>dispensing</i></p>	<p>dispensing refraction prescription</p>	<p>dispensing refraction prescription <i>screening for eye disease</i></p>	<p>dispensing refraction prescription <i>diagnosis of eye disease using DPA's (diagnostics)</i></p>	<p>dispensing refraction prescription diagnosis of eye disease using DPA's (diagnostics) <i>treatment of eye disease using TPA's (therapeutics)</i></p>	<p>dispensing refraction prescription diagnosis of eye disease using DPA's (diagnostics) treatment of eye disease using TPA's (therapeutics) <i>eye surgery using laser</i></p>

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Spectacle Makers Company
1629 Regulated quality of spectacles
1898 Examinations for Opticians
Syllabus for technical college courses

1895 British Optical Association
1895 Examinations for Opticians
Syllabus for technical college courses

1980 College of Optometrists
Took over the Optometry examining
function of the BOA, the SMC and SAO

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The General Optical Council, 1958

Act of Parliament 1958 created the GOC to regulate UK optometry and optical dispensing

The GOC delegated its examining functions by accrediting the existing examinations of the SMC and BOA, and later the COptom, as the means to admission onto register

ELIZABETH II c. 44



Opticians Act 1989

1989 CHAPTER 44

An Act to consolidate certain enactments relating to opticians with amendments to give effect to recommendations of the Law Commission and the Scottish Law Commission.
[16th November 1989]

BE IT ENACTED by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

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GOC accreditation process

1965: Three-year (4 years in Scotland), full-time, university BSc degree courses

Then the students enter the Scheme for Registration and undertake examinations from the College of Optometrists

Then they are allowed to register with the GOC

GOC visits all universities and Scheme for Registration structure every 5 years

GOC approves, provisionally approves on the basis of changes being made, or withdraws approval

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Scheme for Registration

1 year Scheme for Registration experience working under direct supervision

12 months, including 1 day per week observing an Ophthalmologist

500 eye examinations, 350 dispensing, 350 contact lens (CL) patients

Keep a logbook

Exit examinations before registration

- Lead to becoming DOphth or MCOptom


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Non-UK qualified optoms wanting to work in UK

Must apply to GOC (www.optical.org)

Need to demonstrate equivalent experience and training

GOC may reject application

GOC may ask for certain areas of study from applicants

Successful applicants need to undertake the Scheme for Registration



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OPTOMETRY EDUCATION AND SCOPE OF PRACTICE IN THE UNITED STATES OF AMERICA

Joanne Caruso, O.D.



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- Coordinator of International Programs in Europe and Israel at the New England College of Optometry
- Clinical Instructor at East Boston Neighborhood Health Center
- Solo Private Optometry Practice in Watertown, MA



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US Optometry Presentation

- Doctor of Optometry - O.D.
- Educational System in the US to become a Doctor of Optometry
- Post Graduate Optometry Residency Programs
- Optometric Scope of Practice
- Optometric Billing Practices



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Doctor of Optometry

- Optometrists are America's primary eye health care providers.
- Optometrists provide high-quality eye health and vision care services.
- In the USA there are more than 30,000 Doctors of Optometry nationwide.



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Doctor of Optometry

Optometrists examine, diagnose, treat and manage diseases and disorders of the eye.

- Prescribe spectacle lenses and contact lenses
- Binocular vision, strabismus/amblyopia and vision training
- Pediatrics
- Rehabilitation vision and geriatric care
- Diagnostic and Therapeutic pharmaceutical agent application
- Perform certain surgical procedures



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Doctor of Optometry

- Optometrists play a major role in an individual's overall health and well-being by detecting systemic diseases, such as diabetes and hypertension. And sometimes even life threatening conditions.
- Counsel patients regarding surgical and non-surgical options that meet their visual needs related to their occupations, avocations and lifestyle.



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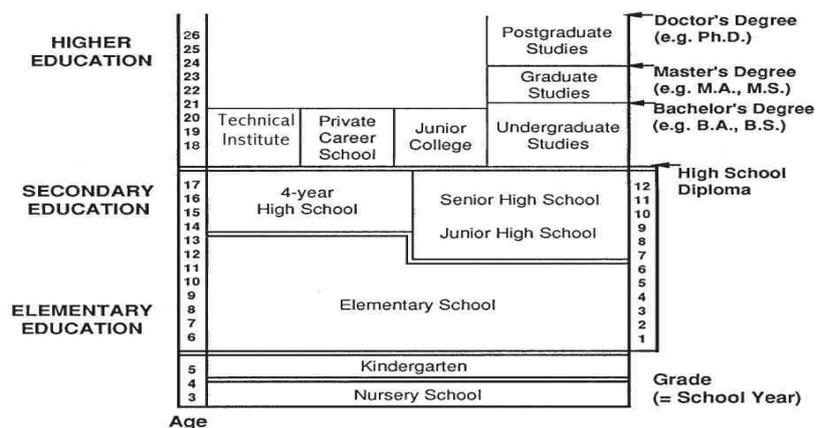
Optometry in the USA

- Optometry is a regulated profession
- Optometry Schools in US are accredited by both educational and optometric bodies
- National Board Exam in Optometry - Established minimum competency standards for all graduating Optometry students required prior to licensure
- Some states require additional tests or requirements



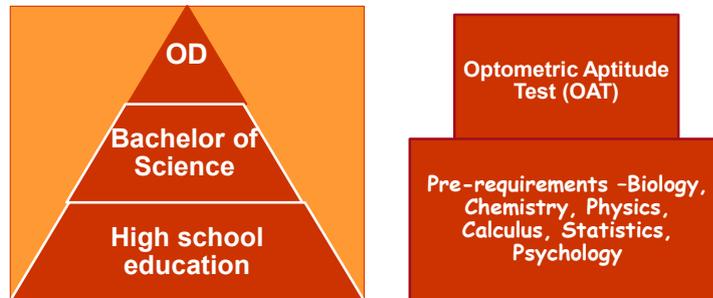
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The System of Education in the U.S.A.



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Optometric Education structure



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Educational System in US to become an Optometrist

- Optometry School is a four year of professional education at a college of optometry, leading to the Doctor of Optometry (O.D.) degree.
- The United States has 23 Colleges of Optometry



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23 Colleges of Optometry in US



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Educational System in US to become an Optometrist

- **What is optometry school like?**
Optometry school is a four year program.
- Usually 3 years of Didactic Course Work to prepare you to be able to practice in any state in the USA.
- The Clinical Experience starts in the 1st 2nd and 3rd years with a day or 2 in a clinic seeing patients.
- The 4th year is usually 12 months of Clinic in a variety of settings - Community Health Centers, Veterans Administration Hospitals, Specialty Clinics - Pediatrics, Contact Lenses, Low Vision, and Private Practices.

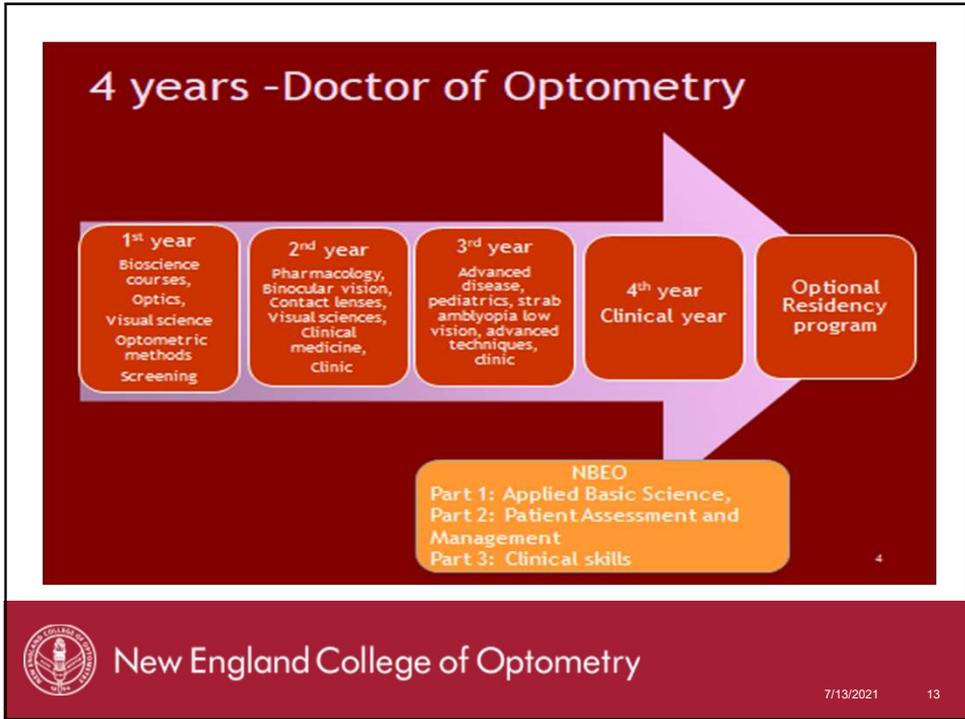


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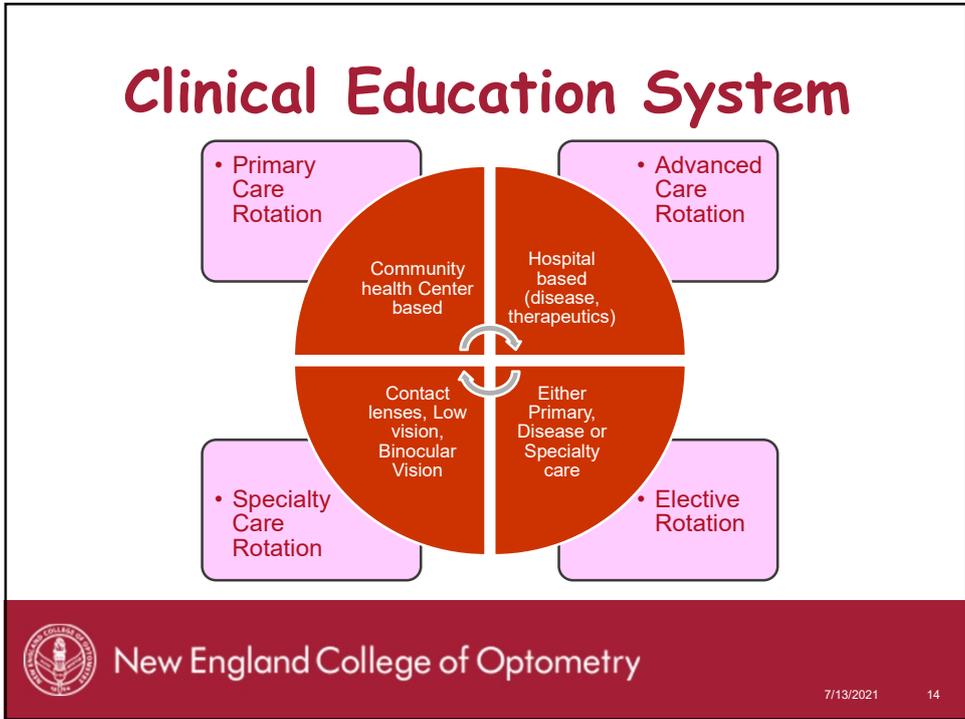
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 **Doctor of Optometry Clinical program**

Student responsibilities increase as they acquire clinical skills in an academic environment

- Case history
- Entrance testing
- Retinoscopy and refractions, prescription decisions and writing
- Visual fields
- Slit lamp evaluation
- Goldmann tonometry

- Dilated fundus assessment using Binocular Indirect
 - Ophthalmoscope, 90D etc.
 - Use of automated instruments: auto-refractor, OCT, fundus camera
 - Other handheld techniques: such as punctal plug, Perkins tonometry etc.



Technical skills, knowledge base, communication skills, efficiency, attitude, professionalism, patient logs

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Am I a licensed optometrist after graduating from optometry school?

- Graduate from an accredited US optometry school
- Pass all parts of the National Boards in Optometry
- Individual states may require additional exams beyond the National Board exam

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Optometry Residency Programs

~25%-28% of Optometrists do a Residency Program

- Primary eye care
- Family practice
- Vision therapy and rehabilitation
- Cornea and contact lenses
- Pediatric optometry
- Geriatric optometry
- Refractive and ocular surgery
- Low vision rehabilitation
- Ocular disease
- Community health optometry
- Brain Injury Vision Rehabilitation



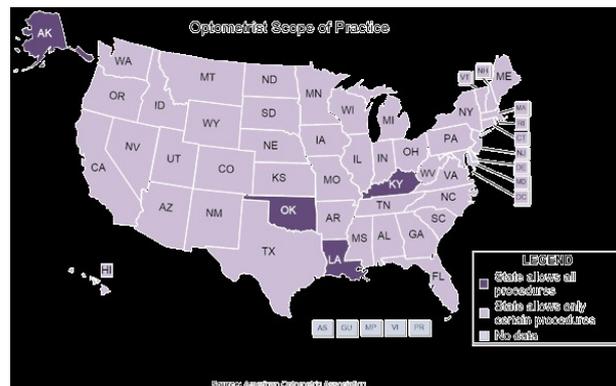
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Scope of Optometric Practice in the United States



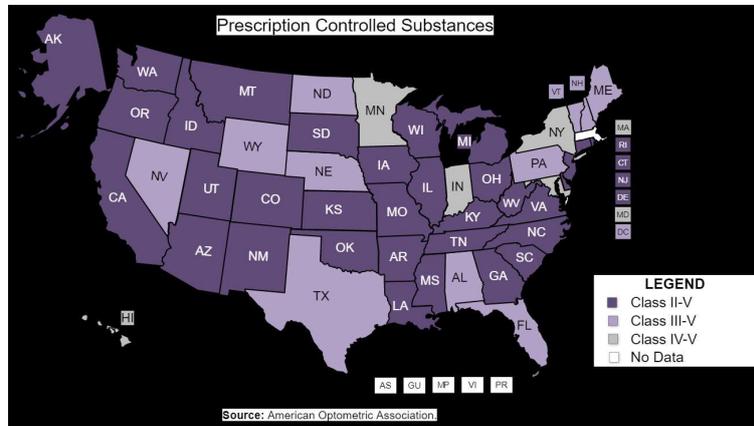
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Scope of Optometric Practice in the United States

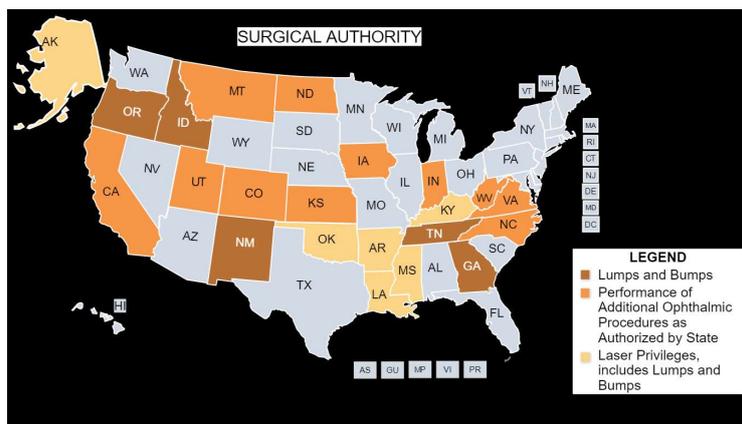


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Scope of Optometric Practice in the United States



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Billing and Services for Optometrists

- In the US - Optometrists Professional Expertise is honored and patients pay a comprehensive Eye Exam either through their Health or Vision Insurance or Private Pay.
- Eyeglasses and Contact Lenses are an additional cost (Private Pay) although some Health or Vision Insurances may pay toward their cost.



Defensive Medicine/Optomety

- Medicine practiced in such a way as to reduce the risk of malpractice litigation, typically by the use of excessive diagnostic testing
- Optometric Malpractice Insurance with insurance covering 2 Million/4 Million per incident



Educational System in US to become an Optometrist for International Students

- Advanced Standing International Program (ASIP) allow Internationally trained Optometrists to earn a Doctor of Optometry degree.
- The requirements for the ASIP includes being a graduate from a recognized optometry program outside the US, minimum Bachelor's degree (4 years) or higher, minimum 2 years of optometric experience post licensure.
- The curriculum is designed to complement the student's previous education and experience. The courses include basic and advanced health care sciences, clinical patient care, vision sciences.
- Typically 12 months of didactic course work and 12 months of clinical externships.



NECO-ASIP - Verona, Italy

- New England College of Optometry's ASIP Program was delivered in Italy in 1992. First Optometric program to be delivered overseas. This program was approved by the Council on Optometric Education.
- 8 Italian Students graduated with the OD degree in 1997. They are practicing in Italy.



ASIP-Verona Doctors of Optometry



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References

- **American Optometric Association**
<https://www.aoa.org/>
- **Association of Schools and Colleges of Optometry**
<https://optometriceducation.org/>
- **Scope of Practice**
<https://www.ncsl.org/research/health/optometrist-scope-of-practice.aspx>
- **New England College of Optometry**
<https://www.neco.edu/>
- **Midwestern University- Chicago College of Optometry**
<https://www.midwestern.edu/academics/ourcolleges/chicago-college-of-optometry.xml>



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