HOME STUDY COURSES
For Spectacle and Contact Lens Dispensers

Indispensable study guides
Simulates Classroom Environment
Hundreds of Practice Test Questions
Six Workbooks and Six Audio CDs or Cassette Tapes
Clearly Written Explanations
Illustrations & Tables
Practice Exercises
HERE’S WHAT SOME OTHERS HAVE SAID . . .

“Preparing for the exam and passing it has made me more effective in my present position. I will now be able to use my teaching degree along with the added knowledge from your course to prepare my co-workers for the exam. Thank You!”

Mary Lynne Bennett
Battle Creek, MI

“The course was excellent!
I loved the sequence of subjects . . .
Great job. Thanks!”

Sheryl Waddingham
Goose Creek, SC

“The material contained in the home study course was concise and clear. The instructor had a professionalism that kept my interest. I was very well prepared.”

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ABOUT THE OPTICAL TRAINING INSTITUTE

Since 1988 the Optical Training Institute has helped thousands of opticians prepare for and pass the important National and State certifying exams in opticianry and obtain their professional credentials. It sponsors exam preparation courses, produces the Hands-On Training for Opticians seminars which cover essential, day-to-day dispensing issues vital to the success of every optical organization, and publishes the Exam Preparation Home Study Courses for Spectacle and Contact Lens Dispensers. While the Home Study courses are a proven method of preparation for National Certification and State Board Exams in opticianry, they have also been used extensively as valuable in-office training manuals in a variety of professional settings. The workbooks and audio cassette tapes make abundant use of illustrations and tables and are supplemented with practice exercises and clearly written explanations. They are the only courses of their kind currently available.
GENERAL INFORMATION

SIMULATES CLASSROOM ENVIRONMENT
These self study courses are modeled after the classroom presentations which have been offered by the Optical Training Institute since 1988. Since then, thousands of opticians have prepared for the National Certifying Exams with over 70% of course graduates passing the exam on their first attempt. Through the use of workbooks and audio CDs or cassette tapes, these courses are simulated in home study versions. The material consists of a combination of lecture, sample testing and review. The abundant use of illustrations, tables, and clearly written explanations contained in the workbooks require little note taking on the part of the student, although there are pages reserved for that purpose.

PRACTICE TESTS
The material is contained in six workbooks and six audio CDs or eight audio cassette tapes. The conclusion of each section includes a twenty to thirty question multiple choice practice exam based on the material just covered. Each test enables the student to evaluate how well he/she has assimilated the information, assessing strengths and weaknesses, and indicating where further review may be needed. The answers to the sample test questions can be found only on the accompanying audio portion rather than in the workbooks. In this manner, similar to a classroom setting, the principle underlying each correct answer can be clearly explained allowing for a more thorough understanding. Certain “tips” on test taking in general are presented on the tapes as the course progresses. These tests are excellent preparation for those wishing to take the national or state certifying exams.

AUDIO CDS & CASSETTES
The workbooks and audio CDs or cassette tapes are designed to be used together, neither is complete without the other. Sections on the audio which correspond to the workbook material are indicated by a headphone symbol contained in a box along the side of the page.

PREPARATION NOT A REVIEW
The Home Study Courses assume minimal optical background, start from the beginning then clearly and methodically follow through to cover the material necessary to succeed on the written portions of the National Certifying Exams and State Boards in opticianry. A review course, on the other hand, assumes the material has been learned previously, that a quick on day review or “brush-up” is sufficient to master the many subjects presented. Since the Home Study Courses assume minimal optical background, they are, in the truest sense, preparation courses.

DUAL PURPOSE OF COURSES
These courses can serve a dual purpose. While they represent excellent preparation for those wishing to sit for the National Certifying Exams or State Boards in Opticianry, they are also an invaluable training aid for employers wishing to orient new employees to the essential skills of spectacle and contact lens dispensing.

CERTIFICATE OF COMPLETION:
The Optical Training Institute will issue a certificate of completion suitable for framing to registered course graduates who are successful in passing their National or State Board Exam. An exam result form is included as part the course material.

Certificate of Completion
COURSE CONTENTS/Spectacle Dispensing:

**PART 1: ANATOMY & PHYSIOLOGY**

This topic surveys the major anatomical features of the human eye along with their physiological function. It includes a discussion of the cornea, iris, pupil, crystalline lens, suspensory ligaments, aqueous and vitreous humor, retina, rods & cones, choroid, optic nerve, macula, sclera and ciliary body. Certain pathologies such as glaucoma, cataract, and scotoma are described. The various ametropias which are usually correctable with spectacle lenses are surveyed. Phorias and tropias are presented and discussed and a glossary of important terms covered concludes this session.

**PART 2: BASIC OPTICAL PRINCIPLES**

Here we begin with a discussion of the metric system of measurement followed by a review of basic mathematical principles. The electromagnetic spectrum, the nature and propagation of visible light, and index of refraction are presented. This section concludes with a discussion of prism, prism diopter, the perception of lenses as prism, and Prentice’s Rule.

**PART 3: LENS FORM & ANALYSIS:**

The actual shape and design of modern prescription ophthalmic lenses is covered in this section. It will include a discussion of spheres and radius of curvature. Corrected curve lenses, the rationale for the use of commonly recommended base curves, and the importance of the routine use of the “lens clock” will be presented. Cylindrical shapes and their use in prescription ophthalmic lenses for the correction of astigmatism are discussed. The power cross is covered to aid in determining the power of compound lenses in the various meridians and to better understand lens transposition. Finally, vertex distance compensation for higher powered lenses will be discussed.

**PART 4: LENS MATERIALS & COATINGS**

The common materials from which ophthalmic lenses can be made are surveyed along with a description of their general characteristics and potential uses. The relative merits of popular spectacle lens materials are compared—these include crown class, CR-39 plastic, and high index materials. This section goes on to discuss the shape and design of modern ophthalmic lenses such as aspherics and progressives. Tints and coatings are discussed as they are used for absorptive, protective, and cosmetic purposes with glass, plastic and high index lens materials.
**PART 5: MULTIFOCAL DESIGNS**

This session surveys common styles of multifocal lenses currently available to include flat top, executive, ultex, blended, progressive— the relative merits and uses of each are outlined. The concept of the reading addition and “image jump” along with a rationale for the development of improved multifocal lens designs will be discussed along with a comparison of fused and one piece lenses. Bicentric grinding or “Slab-off” is included in this session along with a discussion of spectacle lenses which are used for the correction of aphakia.

**PART 6: OPHTHALMIC FRAMES**

Here we discuss the basic parts of the ophthalmic frame and the various measurement criteria are summarized. Horizontal and vertical lens decentration is explained and the theoretical as well as practical minimum lens blank sizes are calculated based on frame dimensions, pupillary distance, and other practical considerations. Common frame materials are surveyed along with a brief discussion of the general characteristics of each. An outline of the various frame styles and bridge designs emphasize the importance of proper bridge selection and temple length. Frame adjustment includes a discussion of the fitting triangle as well as the various frame tilts and face forms. A summary of fitting problems are presented along with possible solutions.

**PART 7: INSTRUMENTATION**

This topic begins with a study of the lensometer to include a survey of its principal parts as well as a summary of the measurements it is capable of reading. It includes a step by step procedure for verifying a lens from a known prescription as well as neutralizing a lens from an unknown prescription. The methods of interpreting prism power as well as the direction of its base are followed by a description of when and how to “split” vertical prism for improved cosmetics and patient comfort. A survey and brief description of some basic tools used in the optical dispensary concludes this section.

**PART 8: REGULATIONS & STANDARDS**

The governmental and non-governmental regulatory agencies are surveyed to include ANSI, OSHA, FDA, and ASTM. An abbreviated table of ANSI Standards is included to list the most commonly referenced tolerances for prescription ophthalmic lenses along with a table of other ANSI publications of interest to the optical dispenser. Professional liability for the products, services, and information dispensed to the public is addressed. Emphasis is placed on maintaining adequate, up-to-date product knowledge and of demonstrating genuine concern for the needs and well-being of the patient.
PART 1: BASIC LENS DESIGN

This topic covers the various contact lens designs to include scleral, corneal and semi-scleral designs. Some basic terminology is discussed and the various materials from which contact lenses can be made are surveyed and placed into historical perspective. The uses, advantages and disadvantages of the lens materials are discussed. The parts of a contact lens are covered to include, optic zone, peripheral curve, base curve, junction zone, and radius of curvature. The need for diopter to millimeter conversion is covered and a table is included. This section also includes a discussion of the relationship between sagitta depth and fit. Changing sagitta depth by manipulating lens diameter and/or base curve radius is presented. A brief glossary of the terms covered concludes this topic.

PART 2: BASIC OPTICAL PRINCIPLES

This section covers basic principles of optics which must be considered when fitting rigid and soft contact lenses. It includes a discussion of vertex distance as well as the optical effects of the lacrimal lens which is formed between the front surface of the cornea and the back surface (base curve) of the lens. Examples and practice exercises are included to cover instances of rigid lenses fit on K, steeper than K, and flatter than K. Part 2 also covers patient selection. Through the use of appropriate prefit testing and interviewing techniques, an attempt is made to identify contact lens candidates with the best prognosis for successful wear as well as those with a reduced prognosis. A review of certain anatomical features of the eye is included with an emphasis on the structure of the tear film and the cornea.

PART 3: FITTING & VERIFICATION

The various fitting philosophies of rigid and soft lenses are presented. Although PMMA lenses are rarely fit today, the basic principles of fitting them are fundamental to all rigid lenses and are therefore covered in this section. It includes discussions of palpebral lenses as well as larger lenses with wider peripheral curves. The general characteristics, advantages, and disadvantages of each are covered. Methods and procedures for selecting base curve, diameter, optical zone width, peripheral curves, and thickness are covered to include the use of nomograms and diagnostic lenses. Dynamic fluorescein patterns which are used to assist in the evaluation of the fit of rigid lenses are discussed. These include spherical base curves on spherical corneas as well as spherical base curves on toric corneas. Astigmatism with the rule, against the rule, and oblique will be discussed and observed. Soft lens evaluation is then covered to include fitting goals and the characteristics of a good fitting soft lens. This sessions concludes with a presentation of rigid and soft lens verification techniques to include the hand magnifier, diameter gauge, projector inspection devices, slit lamp, radiuscope, thickness gauge, lensometer, and profile analyzer.
PART 4: ANATOMICAL CONSIDERATIONS

This section begins with a review of certain anatomical structures which include the tear film, eyelids, conjunctiva, cornea, and limbus. It is followed by a discussion of some of the potentially adverse effects of contact lens wear such as corneal edema, corneal striae, conjunctiva, episcleral injection, giant papillary conjunctivitis, and corneal vascularization. Corneal epithelial staining patterns are then discussed and illustrated to cover those caused by direct trauma such as by a poorly edged or damaged lens, or by improper insertion, removal and recentering techniques. Also covered are staining patterns caused by defective tear film distribution over the cornea such as "three and nine-o-clock" staining. The topic concludes with a discussion of the biomicroscope or slit-lamp, emphasizing its importance in the fitting of contact lenses.

PART 5: ADVANCED TECHNIQUES

Here we discuss the use of contact lenses for the correction of presbyopia, astigmatism, aphakia, and keratoconus. While the fitting of contact lenses for any of these conditions requires a great deal of skill, the basic principles and philosophies which are employed are presented. These include the utilization of the monovision technique as well as the use of concentric and segment style bifocal lenses for the correction of presbyopia. Techniques for inhibiting lens rotation are covered to include prism ballast, truncation, toric surfaces, and double slab-off. Front toric, back toric and bitoric contact lenses and their application for the correction of astigmatic conditions are covered. Lenses for the correction of aphakia include conventional lenticular designs as well as minus carrier lenticulars, and single cut lens designs. This section will conclude with a discussion of keratoconus, describing contact lens fitting methods and philosophies.

PART 6: MODIFICATION & DELIVERY

This final section of the home study course begins with a description of in-office modifications that are possible with rigid contact lenses. Included among these are the reduction of lens diameter, blending transition zones, removing scratches, adding minus power and dotting the lens for identification. The use of the radiuscope is described and illustrated as it is used to verify the radius of curvature of a spherical surface. This section continues with a discussion of the various solutions for rigid and soft lenses. These include wetting, cleaning, and soaking solutions for rigid lenses, and cleaning disinfecting, rinsing, and re-wetting solutions for soft lenses. Thermal and chemical disinfection for soft lenses is discussed and is followed by a presentation of patient instruction techniques for lens insertion and removal. Following a discussion of ANSI standards for contact lenses, Part 6 concludes with a glossary of terms which were presented and used throughout the course.
**FEES**

The fee for each complete Home Study course is $249.00 (California residents add 7.50% sales tax). When both the Spectacle and Contact Lens Dispensing Courses are ordered at the same time, the total fee for both courses is $449.00. Payment may be made by credit card, check, money order. Checks and money orders should be made payable to: **Optical Training Institute**.

**OPTICAL TRAINING INSTITUTE**

4000 Barranca Parkway Suite 250
Irvine, CA 92604

Telephone: 949-551-5455
Fax: 949-857-5455

**COURSE ORDER FORM**

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Method of Payment: [ ] Check/Money Order [ ] Credit Card [ ] (Visa, Master Card, AMEX, Discover)

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For overnight or second day delivery, please call for shipping charges.