

Department of Optometry

Introduction

History

In 2008 the department of Optometry was formally established and the four-year Bachelor of Optometry program commenced. After four years of study, students graduate with a Bachelor of Optometry degree. Currently, the department has 376 students. We also offer two-year bachelor program for those who already work in optometry and optical dispensing industry to further master their professional skills.

Features

Curriculum

The department of Optometry is to train professional, competent and ethical practitioners of optometry based on the national standard of optometric education. Education begins with the basic sciences in first year and leads to upper-year professional courses in the areas of optics, refraction, contact lenses, dispensing, binocular vision, low vision, and clinical skills. The program culminates with clinical internships (18 weeks) to ophthalmology departments in hospitals (9 weeks), as well as retail optical stores (9 weeks) in their final year. Students can expect to graduate with the knowledge, skills, and judgment required being fully independent ophthalmic professionals.

The research program at the department of Optometry is currently being organized. As well, the department has the services of several full-time teaching assistants, making us well poised to begin significant research activity in the near future.

Faculty

The faculty and staff in the department maintain basic medicine, optics, optometry and low vision and they are also good at their skill sets with these technologies. The number of full-time teachers at the department is 9, containing 1 professor, 4 assistant professors and 4 lecturers.

Facilities

We are in possession of key diagnostic equipment such as standard examination equipment including slit lamps, phoroptors and keraometers. The Department will continuously purchase new equipment, such as hand edger, lens drilling machine, auto lens meter, layout marker, auto lensgroover, auto refractometer, open field auto refractor, chart projector, for the purpose of experimental courses. The students will be able to constantly improve refraction skills for the need of job market after graduation.

Career Development

1. Students can pursue a higher degree at home or abroad in related fields, such as in the medical engineering and biotechnology or management departments of Yuanpei University, and in optometry or optoelectronic/optical technology.
2. Students can develop a career as an optometrist in optical retail stores, a shopkeeper, as a professional optometrist in the ophthalmology department of hospitals or clinics or open personal optical store or clinic.
3. Students can develop a career as hospitals as a development planner in the optometric industry adjunct to biotechnology and preventive medicine, or as a project manager or development engineer in the optometric and optoelectronic industries.

Degrees Offered

- Bachelor (4-year program and 2-year program)

Mission & Objectives

Educational Objectives

| Program | Objectives |
|----------------------|--|
| Undergraduate | <ol style="list-style-type: none"> 1. Cultivating medicine-focused optometric practical training, optometric fundamentals, and management training. 2. Understanding the professional, competent and ethical practitioners of optometry based on the national standard of optometric education. 3. Cultivating the global view and to understand the difference of multicultures. |

Core Competences

| Program | Competences |
|----------------------|---|
| Undergraduate | <ol style="list-style-type: none"> 1. Possess the theoretical foundation of medicine-focused optometry. 2. Possess the ability of teamwork, analysis, and solving problems. 3. Possess the global awareness of multi-cultures. |



Curriculum

Undergraduate Program of 4-year, Department of Optometry, Yuanpei University (Academic Year 2014)

| Year 1 | | | |
|---|---------|---------------------------|---------|
| Required | Credits | Elective | Credits |
| University Physics (1) | 2 | Psychology | 2 |
| Experiment of Physics (1) | 1 | Chain Store Service | 2 |
| Foundation Calculus | 2 | Epidemiology | 2 |
| General Chemistry | 2 | | |
| General Chemistry Experiment | 1 | | |
| General Biology | 2 | | |
| General Biology Experiment | 1 | | |
| Vision Science | 2 | | |
| Biochemistry | 2 | | |
| University Physics (2) | 2 | | |
| Experiment of Physics (2) | 1 | | |
| Geometric Optics | 2 | | |
| Anatomy and Histology of the Eye | 2 | | |
| The Lab of Anatomy and Histology of the Eye | 2 | | |
| Year 2 | | | |
| Required | Credits | Elective | Credits |
| Physiology | 2 | Physiology Optics | 2 |
| Physiology Experiment | 1 | Labor Safety and Health | 2 |
| Clinical Optometry(1) | 2 | The Aesthetical of Vision | 2 |
| The Lab of Clinical Optometry(1) | 1 | Management | 2 |
| Visual Perception | 2 | Environmental Health | 2 |
| Biostatistics | 2 | Pathology | 2 |
| Clinical Optometry(2) | 2 | The Material of Glasses | 2 |
| The Lab of Clinical Optometry(2) | 1 | Organization Behavior | 2 |
| The Optics of Glasses | 2 | Health Care of Vision | 2 |
| | | Microbiology and | 2 |
| | | Immunology | 2 |
| | | Laws of Health | |

| Year 3 | | | |
|----------------------------------|---------|---------------------------------|---------|
| Required | Credits | Elective | Credits |
| Ophthalmic Dispensing | 2 | Human Resource Management | 2 |
| The Lab of Ophthalmic Dispensing | 1 | Medical Record | 2 |
| Statistical Package | 2 | Financial Management | 2 |
| Neurophysiology of Vision | 2 | Ophthalmology | 1 |
| Refraction(1) | 2 | Optometry English I | 2 |
| The Lab of Refraction(1) | 1 | The Design of Class | 2 |
| Low Vision | 2 | Marketing | 2 |
| Contact Lenses | 2 | Consumer Behavior | 2 |
| The Lab of Contact Lenses | 1 | Clinical Ocular | 2 |
| Refraction(2) | 2 | Pharmacology | 2 |
| The Lab of Refraction(2) | 1 | Optometry English II | 1 |
| Seminar I | 1 | The Journal Paper of Optometry | |
| | | Seminar II | |
| Year 4 | | | |
| Required | Credits | Elective | Credits |
| Electronic Commerce | 2 | Spectacle Design | 2 |
| Binocular Vision. | 2 | Vision-training | 2 |
| Optometry Practice | 10 | Business of Management | 2 |
| | | Performance Management | 2 |
| | | Clinical Medicine for Optometry | 2 |
| | | Glass Polishing | 1 |
| | | The Lab of Glass Polishing | |



Undergraduate Program of 2- year, Department of Optometry, Yuanpei University
(Academic Year 2014)

Year 1

| Required | Credits | Elective | Credits |
|----------------------------------|---------|-------------------------|---------|
| Clinical Optometry | 3 | Physiology Optics | 2 |
| The Lab of Clinical Optometry | 1 | Optometry Instrument | 1 |
| Geometric Optics | 2 | Labor Safety and Health | 2 |
| Vision Science | 1 | Optometry English I | 2 |
| Anatomy and Histology of the Eye | 3 | Accounting | 2 |
| Biostatistics | 2 | Management | 2 |
| Physiology | 2 | Epidemiology | 2 |
| Low Vision | 2 | Financial Management | 2 |
| Ophthalmology | 2 | Optometry English II | 2 |
| The Optics of Glasses | 2 | Health Care of Vision | 2 |
| Neurophysiology of Vision | 2 | Laws of Health | 2 |
| Refraction | | | |

Year 2

| Required | Credits | Elective | Credits |
|----------------------------------|---------|------------------------------|---------|
| Ophthalmic Dispensing | 2 | Marketing | 2 |
| The Lab of Ophthalmic Dispensing | 1 | Consumer Behavior | 2 |
| Statistical Package | 2 | Clinical Ocular Pharmacology | 2 |
| Electronic Commerce | 2 | Spectacle Design | 2 |
| Contact Lenses | 3 | Microbiology and Immunology | 2 |
| Binocular Vision | 2 | Business of Management | 2 |
| The Lab of Refraction | 1 | The Coating of Glass | |
| Optometry Practice | 9 | | |

Faculty and Staff

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|-------------------------|--|
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Faculty and Staff

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Research

The specialties of the research are divided into three areas: visual health science and basic science, optical design and geometrical optics, clinical optometry and optometry management.

Research Papers

Ming-Shung Hsieh, Fei-Shish Yang, Hu-Yi Tseng, Shu-Chiou Chen, Chi-Long Juang and Hsiao-Chuan Wen* Investigation of Anti-oxidative Stress in vitro and Water Apparent Diffusion Coefficient in MRI on Rat after Spinal Cord Injury in vivo with Lithoniadivers foliaEthanol Extracts Treatment. BMC Complementary and Alternative Medicine (2014 accepted)(SCI)

Liao MH, Tsai YN, Yang CY, Juang CL, Lee MY, Chang LH, Wen HC*. Anti-human Hepatoma Hep-G2 Proliferative, Apoptotic and Antimutagenic Activity of Tagitinin C from *TithoniaDiversifolia* Leaves. J Nat Med 2013;67(1):98-106 (SCI)

Liu CC, Lin CH, Lin CY, Lee CC, Wen HC*. Transgenic Overexpression of Heat Shock Protein 72 in Mouse Muscle Protects Against Exhaustive Exercise-Induced Skeletal Muscle Damage. J Formos Med Assoc 2013;112(1):24-30 (SCI)

Huang MY, Liao MH, Wang YK, Huang YS, Wen HC*.Effect of Lavender Essential Oil on LPS-stimulatedInflammation. Am J Chin Med 2012;40(4):845-859. (SCI)

Liao MH, Lin WC, Wen HC, Pu HF. Tithoniadiversifolia and its main active component tagitinin C induce survivin inhibition and G2/M arrest in human malignant glioblastoma cells. Fitoterapia 2011; 82:331-341. (SCI)

Lee MY, Liao MH, Tsai YN, Chiu KH, Wen HC*.Identification and Anti-Human Glioblastoma Activity of Tagitinin C from TithoniaDiversifoliaMethanolic Extract. J Agri Food Chem 2011;59:2347-2355. (SCI)

Yao, Ke-Wu, Yu Shu, Cheng Shun-ping, Chen I-Ju, "Relationships Between Personal, Depression and Social Network Factors and Sleep Quality in

Community-Dwelling Older Adults"Journal of Nursing Research, Vol. 16, 2008, 3, p. 9.

Lin CJ, Lien HM, Chang HY, Huang CL, Liu JJ, Chang YC, Chen CC, Lai CH. Biological evaluation of Phellinus linteus-fermented broths as anti-inflammatory agents. J Biosci Bioeng. 2014 Jul;118(1):88-93. doi: 10.1016/j.jbiosc.2014.01.001. Epub 2014 Feb 3.

Bo-Wen Wu, "A New Application of Human Visual Simulated Images in Optometry Services," Journal of the Optical Society of Korea, Vol. 17, No. 4, 2013, 8, pp. 328-335.

Bo-Wen Wu, "New Application of Selection of Customized Lens Fitting in Optometry Services," Applied Mechanics and Materials, Vol. 518, 2014, 2, pp. 343-349.

Bo-Wen Wu, "New application of human eye model in the verification of spot diagram with refractive diopter," Optik - International Journal for Light and Electron Optics, Vol. 125, No. 6, 2014, 3, pp. 1784-1788.

Bo-Wen Wu, "A New Application of Customized Glasses in Optical Chain Opticians," DEStech Publications, 2014, 3.

Bo-Wen Wu, "Optical computing for application to reducing the thickness of high-power-composite lenses," Applied Optics, Vol. 53, Issue 29, pp. H7-H13, 2014, 10.

Ai-Yih Wang, Ming-Yi Zhou, Wen-Chieh Lin, "Antioxidative and anti-inflammatory properties of Citrus sulcata extracts," Food Chemistry, Vol. 124, 2011, 2, pp. 958-963.

May-Hua Liao, Wen-Chieh Lin, Hsiao-Chuan Wen, Hsiao-Fung Pu, "Tithonia diversifolia and its main active component tagitin C induce survivin inhibition and G2/M arrest in human malignant glioblastoma cells," Fitoterapia, Vol. 82, 3, pp. 331-341., Vol. 82, 2011, 3, pp. 331-341.

Li CY1, Liao MH, Lin CW, Tsai WS, Huang CC, Tang TK. Inhibitory Effects of Microwave Radiation on LPS-Induced NFκB Expression in THP-1 Monocytes. Chin J Physiol. 2012 Dec 31;55(6):421-7.

Research project

- 1.RFID module applications and optimization of optical systems.
(Step-2012 ~ March- 2013)
- 2.Advanced hyperbolic aspheric glasses lens design.
(Step-2012 ~ March- 2013)
- 3.Aspheric optical lens designed for use in the bathroom.
(April-2014 ~ May-2014)