VISION CARE TECHNOLOGY
OPHTHALMIC DISPENSING
DEPARTMENT

Building a “Bridge” to your Career
and “Focusing” on your Future

NEW YORK CITY COLLEGE OF TECHNOLOGY
CITY UNIVERSITY OF NEW YORK

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9/18 revised
VISION CARE TECHNOLOGY – BECOME AN OPTICIAN

CAREER

A licensed ophthalmic dispenser (optician) is an eye care professional who analyzes and interprets prescriptions written by ophthalmologists and optometrists in order to design, fit and dispense eyeglasses and contact lenses for a patient’s optimum visual needs.

The ophthalmic dispenser (optician) obtains specific patient history, and selects and fits glasses and/or contact lenses that provide patients with effective vision correction and comfortable wear. This process includes in depth analysis of available lens and frame products, design materials and lens treatments to enhance the patient’s comfort and lifestyle. A licensed professional optician may perform duties such as: optical sales and precision measurements, practice management, eyewear fabrication, contact lens fitter, reception/patient record keeping and insurance billing.

An ophthalmic dispenser (optician) must:
• possess the academic, technical and clinical skills to fulfill the duties and responsibilities of an eyecare professional
• function well in a variety of eye care work environments
• communicate clearly in written and oral presentation
• understand the ethical responsibilities and implications of one’s work and personal actions
• apply problem-solving techniques to the workplace
• protect the health, safety and welfare of the public

A licensed optician can specialize in many aspects of vision care, such as:

- Professional Optician/Optical Sales Associate or Manager
- Vision Care Technologist
- Contact Lens Practitioner
- Laboratory Fabrication Optician
- Optical Industry Business Professional or Industry Leader
- Specialty Eyewear and Sun Wear Dispensing/Sales
- Ophthalmic High School Teacher/College Assistant

Optician/Sales

An Optician/Sales Associate is a licensed professional that many times, hold the license for the practice in which they work. They work directly with the customers/patients and fit and dispense eyewear based off current prescriptions written by Ophthalmologists and Optometrists. They also may manage a practice or perform tasks that non-licensed staff may not legally perform.
**Vision Care Technologist**

The vision care technologist is a licensed optician who can assist specialists of ophthalmology and optometry to provide a full scope of vision care. They are likely to work in medical settings, e.g. a medical office or clinic. These eye care professional’s responsibilities will likely include obtaining medical histories from patients, administering diagnostic tests, performing patient testing utilizing computerized and automated technology and assist in specialized pre and post- surgical testing. The vision care technologist must be very personable, comfortable with cutting edge technology and appreciative of the professionalism of a medical setting.

**Certified Contact Lens Practitioner**

The licensed contact lens practitioner measures for, evaluates and selects the proper contact lens modality to correct for visual and ocular diseases of the eye as prescribed by an ophthalmologist and optometrist. Many opticians specialize in contact lenses, while others incorporate contact lens fitting into a general practice of vision care. Possible specialties of the contact lens practitioner include pediatrics, prosthetics and rigid gas permeable lenses. Fitting contact lenses requires considerable skill, care and patience. Skills required for contact lens fitting include a comprehensive knowledge of the anatomy and physiology of the eye and specialized instrument procedures. Additional certification is needed to fit contact lenses in New York State.

**Laboratory Fabrication Optician**

The laboratory optician fabricates the prescription, specifies stock selection of lenses and frames, formulates lens specifications and performs all technical functions in the making of eyewear. The laboratory optician, also called an ophthalmic laboratory technician, usually has little contact with the public. He or she still needs to possess the managerial skills and communication skills of a dispensing optician. He or she needs to have supervisory and communication skills to work with the personnel on the sales floor and in the wholesale laboratories.

**Optical Industry Business Professional**

The vision care industry worldwide needs sales, management, service and consulting personnel. The associate degree in vision care technology will be invaluable in obtaining these business positions in that it provides familiarity with the optical industry to business minded people.

**Specialty Market Dispensing Optician**

Some dispensing opticians exclusively service certain markets with specific optical products. There are many interesting and lucrative markets. Examples are dispensers of luxury eyewear, sun wear, sports eyewear, occupational and safety glasses, pediatric, geriatric and low vision optical aids. Specialized Dispensing Opticians should enjoy working within their chosen market and have the technical knowledge to understand and provide for the patient’s optical needs with appropriate optical products.

**Additional Career Opportunities include:**

- Manager of Ophthalmology or Optometry Practice/Clinic or Retail Optical Store
- Independent Owner of a Retail Optical Store
- Manufacturer’s Sales Representative
- Ophthalmic Educator
Transfer Opportunities include:

- Bachelor of Science Degree in Health Services Administration
- CUNY BA program – Business Management
- Pre-Optometry

New York City College of Technology’s Vision Care Technology program is designed to provide students with high level of skills needed in today’s challenging job market. We are a bridge to your future.

Vision Care Technology is the only nationally accredited opticianry curriculum within the City University of New York and currently, the only program in the NYC area. Our department is equipped with state of the art equipment and is the largest opticianry program in the nation. An associate degree in ophthalmic dispensing prepares a student for national certification and New York State licensure. A student of the associate degree program is prepared and eligible to take national examinations administered by the ABO (American Board of Opticianry) and NCLE (National Contact Lens Examination) which are both the written portion of NYS Exams for licensure.

Over the past six years, our pass rates for the ABO (American Board of Opticianry) have averaged from 88% - 100%. In addition, our pass rates for the NCLE (National Contact Lens Examiners) have averaged 72% - 100% percent. Our New York State Board Practical pass rates have averaged from 65% - 94% - well above NY State averages.

Note: Only an associate degree in ophthalmic dispensing from a program accredited by the Commission on Opticianry Accreditation will qualify graduates to take state board licensing examinations in other states around the US.

Many of our graduates enroll in the CUNY BA/BS program and major in areas such as business or science. A number of graduates enroll in the BS program in Health Services Administration.

Ophthalmic Dispensers (Optician) practice their profession in a variety of professional settings such as retail optical stores, private ophthalmology and optometry offices, hospital clinics and wholesale optical companies.

Ophthalmic Dispensers (Optician) are in demand. U.S. government statistics indicate that as baby boomers have now reached middle age the percentage of 60+ aged population has increased, creating a greater need for corrective eyewear to keep Opticians gainfully employed for the future.

New York City College of Technology’s Vision Care Technology Department is committed to offering cutting edge technology in order to meet the current and future needs of the ophthalmic profession. The average entry-level salary for a fully licensed graduate in a full time position is $35,000 to $50,000. Salary range also depends on experience and other qualifications an individual brings to the work setting. Sales experience, computer literacy and/or business skills can increase the candidate’s salary. Annual salaries for experienced licensed opticians in a full time position can range from $50,000 on up.
A licensed optician who manages an office or opens his or her own professional practice will make considerably more money annually.

VISION CARE TECHNOLOGY PROGRAM

The Department of Vision Care Technology/New York City College of Technology is a fully accredited member of the Middle States Association of Colleges and Schools. In addition, the Commission on Opticianry Accreditation also accredits the department. Successful completion of our degree program qualifies the graduate to sit for national and state certification and licensure in the ophthalmic field.

Commission on Opticianry Accreditation
Debra White, Director
PO Box 592
Canton, NY 13617
Email: director@COAccreditation.com
Voice: 703-468-0566

Our faculty is comprised of fully licensed and accredited opticians with advanced degrees. They are nationally and internationally known experts and speakers in ophthalmic dispensing and have published papers and articles on related topics. They have a strong relationship with the ophthalmic community and similarly strong relationships between faculty and students are encouraged.

The ophthalmic dispensing associate degree in applied science (AAS) curriculum is segmented into the following components: ophthalmic materials and fabrication, ophthalmic dispensing and clinical practice, business, anatomy of the eye and contact lenses. All courses are currently offered in the day session with a few classes offered in the evening.

Each of our ophthalmic dispensing courses is a carefully developed balance of theory and laboratory experiences. The theory sessions provide knowledge in optics, materials and properties of lenses, frame components, ophthalmic anatomy, edging techniques and contact lenses. The laboratory’s and clinical setting provide hands-on experience in fabrication and fitting and dispensing eyewear, fitting contact lenses, and working with patients in our on-campus optical store.

Courses in biology, math, english composition and communication are required elements of the ophthalmic dispensing associate degree program. They provide a base of knowledge with science, mathematical and writing skills necessary to understand and communicate in the scope of Vision Care Technology. In addition, associate degree students must take two writing intensive courses (one is in our major) and take three elective courses, one more of which has to be writing intensive.

Our ophthalmic facilities are brand new and well equipped, state of the art laboratories and dispensing clinics.

Our fully operational retail Eyeglass Clinic offers professional hands-on experience with fitting and dispensing eyewear in a beautiful, new optical dispensary, under the supervision of licensed and highly experienced faculty and staff. In order to supply patients for clinical practice, we have
a clinical optometrist on staff that provides eye examinations in state-of-the-art exam rooms to the college community and the local public.

Our contact lens laboratory has six new work stations with bio-microscopes, keratometers, refracting instruments and a video screen bio-microscope to enhance clinical teaching.

Our ophthalmic lens-fabricating laboratory has sixteen stations fully equipped with the latest in ophthalmic technology. Students work with all aspects of lens materials and frame design, honing their skills to create finished eyewear products.

**DEGREE REQUIREMENTS**

Upon successful completion of the required 62 credits of coursework, New York City College of Technology will grant an Associate in Applied Science degree (AAS) with a major in ophthalmic dispensing. Below is the list of required courses totaling the 62 credits required.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit</th>
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<tbody>
<tr>
<td>VCT 1101</td>
<td>Ophthalmic Materials and Laboratory I</td>
<td>3</td>
</tr>
<tr>
<td>VCT 1105</td>
<td>Principles of Optics (WI)</td>
<td>3</td>
</tr>
<tr>
<td>VCT 1201</td>
<td>Ophthalmic Materials and Laboratory II</td>
<td>3</td>
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<tr>
<td>VCT 1202</td>
<td>Ophthalmic Business Practices</td>
<td>3</td>
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<tr>
<td>VCT 1213</td>
<td>Ophthalmic Dispensing I</td>
<td>3</td>
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<tr>
<td>VCT 1222</td>
<td>Anatomy and Physiology of the Eye</td>
<td>3</td>
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<tr>
<td>VCT 1237</td>
<td>Contact Lenses I</td>
<td>3</td>
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<tr>
<td>VCT 2311</td>
<td>Ophthalmic Materials and Laboratory III</td>
<td>3</td>
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<tr>
<td>VCT 2315</td>
<td>Introduction to Principles of Refraction</td>
<td>3</td>
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<tr>
<td>VCT 2316</td>
<td>Ophthalmic Dispensing Clinic I</td>
<td>1</td>
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<tr>
<td>VCT 2327</td>
<td>Contact Lenses II</td>
<td>3</td>
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<tr>
<td>VCT 2333</td>
<td>Ophthalmic Dispensing II</td>
<td>3</td>
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<tr>
<td>VCT 2444</td>
<td>Ophthalmic Dispensing III</td>
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<tr>
<td>VCT 2416</td>
<td>Ophthalmic Dispensing Clinic II</td>
<td>2</td>
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<tr>
<td>VCT 2427</td>
<td>Contact Lenses III</td>
<td>3</td>
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<tr>
<td>BIO 1101</td>
<td>Biology I*</td>
<td>4</td>
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<tr>
<td>ENG 1101</td>
<td>English Composition I</td>
<td>3</td>
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<tr>
<td>MAT 1275</td>
<td>College Algebra and Trigonometry or higher**</td>
<td>4</td>
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*This can also be other approved 4 credit science course with a laboratory for 4 credits*

**Students without the requisite math background to enter MAT1275 will be required to Take MAT1175 in preparation. This will increase the number of credits for the degree by 4 credits*
Flexible Core (3 courses, 9 credits)

Select one course each from three of the following groups: 9

One or more of these courses from this group, should also be a writing intensive course (needing a total of 2) for graduation

World Cultures and Global Issues
US Experience in its Diversity
Creative Expression
Individual and Society
Scientific World

Total program-specific required and elective courses: 42
Total NYSED Liberal Arts/Science credits: 20
Total Credits for Degree: 62

VISION CARE TECHNOLOGY COURSES

VCT1101- Ophthalmic Materials and Laboratory I*
An introduction to the didactic and laboratory concepts involved in the identification, location and fabrication of prescription ophthalmic eyewear. Emphasis is placed on single vision physical and optical lens characteristics, physical frame and design characteristics including: lens materials, index of refraction, spherical, cylindrical power and axis location. In addition, lens power transposition, lens cross, ophthalmic standards, diopter power formula, focal length, total lens power, relationship of radius of curvature and index of refraction and lensmaker’s equation will be covered.
Prerequisite: CUNY certification in reading, writing and mathematics
2 cl hrs, 3 lab hrs, 3 cr.
*Credit by examination available for this course with permission of the department.

VCT1105- Principles of Optics I* (**)
A study of the basic concepts and principles of light, physical characteristics and geometric properties of optics, rectilinear propagation of light and shadows, reflection of light at planes and spherical surfaces, effect of prism on the transmission and deviation of light and thin lens design theory and application will be covered.
Prerequisite: CUNY certification in reading, writing and mathematics
3 cl hrs, 3 cr.
** Credit by examination available for this course with permission of the department.

VCT1201- Ophthalmic Materials and Laboratory II
A continuation of the didactic and laboratory concepts involved in the identification, location and fabrication of prescription ophthalmic eyewear. Emphasis is placed on the calculated effects of prism using a single vision lens power and achieving prism through centration of optical centers. Identifying various ophthalmic lens-manufacturing techniques of factory finish, surfacing and casting methods to achieve lens powers, sphere and toric base curves will be covered. Multifocal lens and progressive lens characteristics are introduced including powers, design, material, lens profiles, lens blank size, frame size
and patient PD. In addition, continued application of ophthalmic standards of ANSI Z80.1, Z80.5 and ANSI Z87 is emphasized.

The laboratory component focuses on the practical aspect of identification, measuring and fabrication of ophthalmic projects that require wanted prism and fabrication of multifocal lens designs that incorporate patient distant and near PDs.

Prerequisite: VCT1101
2 cl hrs, 3 lab hrs, 3 cr.

VCT1222- Anatomy and Physiology of the Eye
A study of the structure and function of the eye, bones of the orbit; cranial nerves in the visual system, lid physiology, tear film chemistry, corneal anatomy and function, corneal metabolism, uveal layer, lens accommodation mechanism, retina, photochemistry of vision, visual pathway and extraocular muscles and motility will be covered. In addition, ocular pathologies, anomalies, deficiencies, etiology and treatment, eye examination and ancillary tests for visual screening and ocular pharmacology will also be discussed.
Prerequisites: VCT1101
3 cl hrs, 3 cr.

VCT1202-Ophthalmic Business Practices
This course provides an introduction to ophthalmic business practices with a basic understanding of business management and leadership skills necessary for a successful eye care business. The course will include an overview of the ophthalmic industry, choosing a legal structure, developing a business plan, applying for licenses, permits, business insurance, a business name and basic foundations of accounting, marketing and finance. The course will discuss vendor relations, purchasing and pricing optical goods, building a frame and lens inventory, inventory control and optical laboratory considerations. In addition, designing an optical dispensary, marketing and running an optical business, managed care, electronic record-keeping and business computerization, human resources and personnel management, strategic planning and handling business problems and e-commerce will be discussed.
Prerequisites: VCT1101 and VCT1105
3 cl hrs, 3 cr.

VCT1213-Ophthalmic Dispensing I
This introductory course is designed to develop the student’s basic theoretical and hands-on clinical skills in preparation for patient care and service in an operational clinical setting. Topics include lens styles and materials, frame styles and materials, lens treatments, optical measurements, clinical stations and procedural systems, frame repair and adjustment, spectacle verification, patient reception, medical assisting and technical support.
Prerequisites: VCT1101 and VCT1105
2 cl hrs, 2 lab hrs, 3 cr

VCT1237- Contact Lenses I
A study of the history and development of contact lenses, physical characteristics of various types of contact lenses, comparison of materials, contact lens nomenclature, ANSI specifications, corneal topography and astigmatism. The laboratory develops skills in the radiuscope, profile analyzer, diameter and thickness gauges, measuring magnifier, lensometer, introduction to biomicroscopy and keratometry.
Prerequisites: VCT1101
2 cl hrs. 3 lab hrs., 3 cr
VCT2311- Ophthalmic Materials and Laboratory III
Advanced didactic and laboratory concepts involved in the selection, identification, location and fabrication of prescription eyewear. Lens aberrations and characteristics based on index of refraction and lens power is covered. Emphasis is place on special procedures used in the material and fabrication of rimless, semi-rimless, nylon suspension and drill mounted lenses. In addition, ANSI Z87.1 safety frames, ASTM F803 sports frames and ASTM F8003 are covered.

The laboratory component focuses on the advanced practical aspect of fabrication of lenses and frames, fabrication of rimless, semi-rimless, nylon suspension and drilled mounted lenses. Repairs and customization of frames are also covered.
Prerequisites: VCT1201, VCT1213
2cl hr, 3 lab hrs, 3 cr.

VCT2333- Ophthalmic Dispensing II
This course is designed to build on VCT1213 and introduce students to advanced knowledge of theoretical and hands-on clinical skill in dispensing. Topics include the fitting triangle, patient profile analysis, presbyopia and accommodation, progressive fitting and accommodation, lens design and fitting characteristics, properties of anti-reflective lenses, sunwear and absorptive lenses, lens tilt, vertex calculation and visual acuity

This course is designed to build on VCT 1213L in developing the student’s ability with hands-on clinical dispensing skills. Topics include patient profile analysis, multifocal analysis, frame adjustment, lens measurement, lens design and fitting characteristics, properties of anti-reflective lenses, sunwear and absorptive lenses, multifocal analysis II, frame selection and fit, and visual acuity
Prerequisites: VCT1201, VCT1222, VCT1237, VCT1213, VCT1202
2 cl hrs, 3 lab hrs, 3 cr

VCT2316 Ophthalmic Dispensing Clinic I
An internship course designed to develop the students clinical ophthalmic dispensing skills. The structure of a basic functioning clinic is detailed. The basic groundwork for fitting and dispensing eyewear and ethical business practice is demonstrated. The students exercise their technical skills with clinical patients under the direct supervision of the clinical instructor. Malpractice insurance is required.
Prerequisites: VCT1201, VCT1105, VCT1222, VCT1237, VCT1213, VCT1202
3 cl hrs, 1 cr

VCT2327- Contact Lenses II
The study of anatomy, physiology and pathology of the anterior segment and related structures, theory of flexible and non-flexible lens fitting, philosophies and optics of contact lenses. In addition, the theory and fitting of soft lenses and contact lens solutions will be covered. The laboratory develops skills in keratometry, biomicroscopy illuminations, and the fitting of soft lenses. Malpractice insurance is required.
Prerequisites: VCT1237, VCT2222, VCT1201, VCT1213, BIO1101
2 cl hrs, 3 lab hrs, 3 cr
VCT2315- Introduction to Principles of Refraction
This course is designed to develop the student’s knowledge of the comprehensive eye exam and ancillary ophthalmic testing. Topics will include: etiology, types, symptoms, testing and treatment of refractive anomalies of the eye, entrance tests, objective and subjective tests including the refractive sequence, ocular health examination, automated testing, ocular pharmacology and the ocular effects of systemic disease.
Prerequisites: VCT1222, VCT1213, VCT1237, VCT1201, VCT1202
2 cl hrs, 2 lab hrs, 3 cr

VCT2444- Ophthalmic Dispensing III
This course is designed to complete the foundation set by VCT 1213 and VCT 2333 to fulfill the student’s comprehensive knowledge of theoretical and hands-on clinical skills in ophthalmic dispensing. Topics include the state of the industry, magnification theory, prism theory and clinical applications, advanced lens design, vertical imbalance and prescription, lens technology and design, managed care and medical coding, ophthalmological advancements, certification preparation, profile analysis, lensometry and fitting review, and NY state examination overview.

This course is designed to complete the foundation set by VCT 1213L and VCT 2333L to fulfill the student’s comprehensive knowledge of hands-on clinical skills in ophthalmic dispensing. Topics include the frame repair II, frame adjustment III, trifocal and progressive identification and dispensing, clinical applications, specific lens design, managed care and medical coding, ophthalmological advancements, certification preparation, and New York state examination review.
Prerequisites: VCT2333, VCT2316, VCT2315, VCT2327, VCT2311

VCT2416 Ophthalmic Dispensing Clinic II
A second level internship course designed to increase basic clinical skills that have been acquired in VCT2316 Ophthalmic Dispensing Clinic I. Under the supervision of a clinical instructor, the interns operate a full service ophthalmic dispensing clinic. Malpractice insurance is required.
Prerequisites: VCT2333, VCT2311, VCT2327, VCT2315, VCT2316
4 cl hrs, 2 cr

VCT2427- Contact Lenses III
A comparison of spectacles vs. contacts, calculation of residual astigmatism, office procedure and office management and contact lens symptomology are discussed. In addition, the advanced fitting concepts of RGP lenses, astigmatic contact lenses, scleral lenses, therapeutic lenses and pediatric contact lens fitting are discussed. The laboratory continues development in the fitting of soft lenses and patient instruction and follow-up with patients. Rigid lens fitting, insertion and removal techniques, patient instruction and fluorescein pattern evaluation will be covered. Malpractice insurance is required.
Prerequisite: VCT2327
2 cl hrs, 3 lab hours, 3 cr.

**Courses where malpractice insurance is required, students will not be permitted in lab or clinic without proof of malpractice insurance. Students are required to purchase malpractice insurance during the first week of the semester. A procedural handout will be distributed in class for purchasing insurance.
FRESHMAN APPLICANTS/TRANSFER STUDENTS FROM OUTSIDE CITYTECH
Students applying for admission to New York City College of Technology for the Vision Care Technology program will be accepted on the following basis:

◆ High School Diploma or Equivalency
◆ CUNY certification in reading, writing and mathematics

Students need to visit Admissions for further enrollment procedures e.g. Immunization, official transcripts and processing fee

TRANSFER STUDENTS
Students who wish to transfer into the Vision Care Technology Department from other majors within the college, will be accepted on the following basis:

◆ CUNY certification in reading, writing and mathematics
◆ or twelve or more college credits and a GPA of at least 2.5

FURTHER INFORMATION
Prospective students who wish to have more personalized information or would like a tour of the department should call (718) 260-5298 or email Dr, Kara Pasner, Lead Advisor, at kpasner@citytech.cuny.edu.

The fulltime faculty and staff in the Department of Vision Care Technology are:

Professor Kimberly Strickler, Chair Email: kstrickler@citytech.cuny.edu
Professor Robert J. Russo Email: rrusso@citytech.cuny.edu
Dr. Kara Pasner Email: kpasner@citytech.cuny.edu
Professor Joseph Sollecito Email: Jsollecito@citytech.cuny.edu
Ms. Letitia Mc Neil, Office Assistant Email: lmcneil@citytech.cuny.edu
Mr. Peter Pineandi CLT Email: ppineandi@citytech.cuny.edu

You can also access college information by visiting the college website at: www.citytech.cuny.edu. Once you bring up the website, click on academics, then click on Vision Care Technology.

ADMISSIONS OFFICE (718) 260-5500