

International Program for M.Sc. in Electro-Optical Engineering

at Ben-Gurion University of the Negev

The Electro-Optical and Photonics Engineering Unit (EOPE)

The Unit of Electro-Optical Engineering was established in 2000 with the vision that the 21st century will depend as much on photonics as the 20th century depended on electronics. It is dedicated to research and education in electro-optical and photonics engineering and is currently the only department in Israel Universities authorized to grant graduate degrees (MSc and PhD) in electro-optics. The Unit's multidisciplinary research places it at the vanguard of the optics and photonics community, both nationally and internationally. Cutting-edge research is conducted in the areas of remote sensing; atmospheric optics; fiber-optic biosensors; nano-plasmonics; integrated nano-photonics; super-resolution microscopy; image processing; computer vision; display systems; 3D imaging and display; computational optical sensing and imaging; compressive imaging, biomedical optics; liquid crystal devices for sensing and imaging; hyperspectral imaging; THz and MMW imaging; optical glass/fibers; opto-electronic devices; photovoltaics, and more.

M.Sc. Degree in Electro-Optical Engineering

The aim of the M.Sc. program in Electro-Optical Engineering is to provide the students with research expertise and advanced knowledge in electro-optical and photonics engineering. M.Sc. students carry out a thesis research supervised by an EOPE faculty or by relevant faculty members from other departments. Students graduating with an M.Sc. degree are qualified for senior research and development positions in the industry, and may continue towards the Ph.D. studies. In particular, M.Sc. studies can be extended to Ph.D. in a combined track such that the thesis exam serves also as the Ph.D. candidacy exam. The M.Sc. degree is typically completed within 2 academic years (4 semesters). The fields of specialization in the Electro-optical engineering M.Sc. program include: imaging systems and image processing; optoelectronic devices; bio-medical optics;

nanophotonics and integrated nanophotonics; quantum and non-linear optics; optical communications; plasmonics and metamaterials.

Application Requirements

Due to the multi-disciplinary nature of EOPE, students with various backgrounds in science and engineering are accepted to our program. The study program is tailored individually for those candidates with insufficient background in EOPE. Applicants to the M.Sc. program should hold a B.Sc. degree in related science and engineering fields (e.g., electrical engineering, material engineering, mechanical engineering, physics, etc.) at a minimum GPA of 80/100. A TOEFL score of 85/120 or equivalent score in an internationally recognized English proficiency exam is required. English proficiency requirement is waived for applicants who received their B.Sc. degree in a program taught in English. GRE is recommended but not required. Additionally, prior to applying to the M.Sc. program, the applicant is expected to contact a potential advisor among the EOPE faculty.

Appointment of a Thesis Advisor

All M.Sc. students are required to have an appointed thesis advisor during the first month of the M.Sc. program. A list of Unit faculty members can be found at [<http://pre.bgu.ac.il/en/engn/electrop/Pages/AcademicStaff.aspx>] . The prospective student is expected to communicate with an ECE faculty members regarding potential supervision of the thesis, and obtain the consent of the faculty member to serve as his/her thesis advisor. The name of the selected advisor should be included in the application.

Summary of M.Sc. Degree Requirements

- 4 mandatory courses : Imaging principles and devices, Mathematical principles in electro-optical engineering, Electro-optical lab. , Advanced optics and photonics lab.
- 4 elective courses related to the specialization field
 - A research thesis
 - Presentation of the thesis work in a department seminar or symposium
 - *students with insufficient background in optics are requested to take typically one to three non-credit complementary courses, depending on their previous training.

The M.Sc. Thesis

The research leading to the M.Sc. thesis is carried out during the entire two years of the studies. The research should represent a scientific contribution. The student is expected to publish and present the research results in leading international journals and conferences. The thesis is evaluated through a written report and an oral examination.

How to Apply

Please visit our online application site at:

<http://in.bgu.ac.il/en/Pages/registration.aspx>

Tuition Fees and Financial Support

Tuition fee is nearly \$5000 per year. Outstanding students are eligible for scholarship which can cover the tuition fees and provide living expenses. Most EOPE faculty can provide additional substantial financial support through their research grants.

Testimonials

[Optional: add here testimonials from your international students if you have]

Further Details

International Students at BGU: <http://in.bgu.ac.il/en/Global/Pages/default.aspx>

International Master's Programs at BGU:

<http://in.bgu.ac.il/en/Global/Pages/General/MasterPrograms.aspx>

EOPE Unit website: <http://pre.bgu.ac.il/en/engn/electrop/Pages/About.aspx>

EOPE M.Sc. Program website: [TBB- by Gil]

Director of the graduate studies: Prof. Adrian Stern, email: stern@bgu.ac.il

Bottom of Form