**School of Architecture and Town Planning** **– Graduate Studies**

The School of Architecture and Town Planning offers four graduate tracks:

Architecture

Urban and Regional Planning

Industrial Design

Landscape Architecture

**Architecture**

The Architecture Department has a number of different study tracks towards a masters or doctoral degree:

* Master of Architectured and Urbanism 1 – non-thesis track, professional degree. Students can specialize in one of the following areas:
	+ Sustainable Architecture
	+ Urban Design
	+ Heritage, Conservation and Renewal
	+ History, Theory and Criticism
	+ Digital Design and Production
* Master of Architecture and Urbanism 2 – non-thesis track, non-professional degree. Students can specialize in the one of the following areas:
	+ Green Architecture
	+ Conservation of Buildings and Sites
* Master of Science in Architecture and Urbanism – thesis track requiring a research thesis, thesis project or capstone paper
* Master of Science - thesis track requiring a research thesis or capstone paper for students without a background in architecture
* Doctor of Philosophy (Ph.D) in Architecture
* Doctor of Philosophy (Ph.D) in Environmental Studies

**Master of Architecture and Urbanism 1**

The curriculum integrates advanced planning knowledge and current research with the aim of training professional architects who will legally register with the Registry of Engineers and Architects in Israel.

The program is designed for students with a non-professional Bachelor of Science in Architecture, who are interested in a professional master’s degree.

**Admissions requirements**

Candidates who hold a four-year non-professional bachelor’s degree in Architectural Sciences from the Technion and have an average of 80 or above are invited to apply. Candidates may also hold a Bachelor of Science with honors in Architectural Sciences from a recognized institution abroad, or a Bachelor of Science in Architectural Design from a recognized institution in Israel. The Admissions Committee will review all applications and may condition admission on the completion of additional prerequisite courses.

Applicants may be asked to take up to 40 credits of prerequisite courses, which must be completed in the year before admission into the masters program. We recommend taking additional 9 credits of electives during the preparatory year in order to meet the recommended course load distribution, according to the table below.

Credit requirements for the Master of Architecture and Urbanism: 80 credits.

\*We suggest that students currently earning a bachelor’s degree in the Architecture Department, who are interested in continuing on to the M.Arch.1, take 9 credits of graduate electives during their 8th semester.

**Specializations**

Within the Master of Architecture and Urbanism 1 degree, students may choose one of five specializations. Graduates will receive a certificate in the field of specialization after earning 26 credits in advanced courses, according to the course list on the Technion’s Graduate Studies or the School of Architecture and Town Planning websites.

\*The School makes an effort to offer sufficient credits in electives and studio classes for each specialization, however, this is not guaranteed.

**Additional information**

Professional Masters Degree Coordinator

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Architecture Department website

<http://architecture.technion.ac.il>

**Master of Architecture and Urbanism 2**

The program is designed for students with a professional bachelor’s degree in architecture, who are interested in expanding their professional education.

**Admissions requirements**

Candidates must hold a fiv-year Bachelor of Architecture or a professional Master of Architecture degree, with an average of 85 or above.

**Credit requirements**

Students must earn 40 credits in advanced graduate level courses and must complete a seminar paper (3 credits) supplementary to one of the courses or projects. Students may also choose to the Master of Architecture and Urbanism 2 (M.Arch.2) with a specialization in Green Architecture or Conservation of Buildings and Sites.

**Master of Sciences in Architecture and Urban Design**

**Research Masters**

The program is designed for students with a professional five-year bachelor’s degree in Architecture (B.Arch) or a professional Master’s in Architecture (M.Arch) from the Technion, or an equivalent degree in architecture from a recognized institution. The program aims to equip students with advanced architectural knowledge and investigative abilities in select fields of architecture and urbanism. Alongside the courses studied, students are expected to complete a research thesis (20 credits), or a capstone paper (12 credits), in one of the specialization topics. This program does not provide a professional degree in architecture.

**Admission requirements**

The program accepts students with a professional bachelor’s degree in Architecture from the Technion’s five-year track or a professional master’s degree in Architecture, whose grade point average is above 85 (candidates with a grade-point average of 80-85 will be conditionally admitted; they will be required to take at least 8 credits and maintain a grade-point average of 85 in the first semester to become fully matriculated).

Students who did not graduate from the Technion must rank in the top 30% of their class.

Candidates must submit a declaration of intentions, no more than one page in length, describing their background, goals, what they expect to gain from their studies and anticipated specialization.

**Credit requirements**

Students with a bachelors degree are required to take 24 credits in advanced topics (32 credits in the capstone paper track). Students with a master’s degree must take 16 credits in advanced topics (24 credits in the capstone paper track).

In addition to the courses offered in the Architecture track, students may choose from courses in other tracks, as well as in other departments at the Technion, in accordance with the requirements of the Graduate School. Students will receive individual guidance on course selection based on their academic goals, previous training and research thesis or capstone paper. At least 8 credits must be completed in courses within the Architecture and Urbanism track.

**Master of Science**

The program aims to train researchers, who do not hold a professional degree in Architecture, to lead research in the fields of architecture and urbanism.

**Admissions requirements**

Candidates with a bachelor’s degree in Architectural Sciences, Landscape Architecture, Engineering or Sciences, with an excellent achievement record (average above 85), as well as candidates with a bachelor’s degree in social sciences and humanities (who placed in the top 15% of their class).

**Credit requirements**

Students with a four-year bachelor’s degree in Architectural Sciences, Social Sciences, Humanities, Landscape Architecture, Engineering, Arts and Sciences must earn 24 credits in advanced courses and complete a research paper worth 20 credits (or earn 32 credits of advanced coursework and a capstone paper worth 12 credtis).

Students with a three-year bachelor’s degree must earn 30 credits in advanced courses and complete a research paper worth 20 credits (or earn 38 credits of advanced coursework and a capstone paper worth 12 credits).

**Fulfilling preliminary requirements**

Students with a four-year bachelor’s degree in the sciences or engineering (with the exception of Architectural Sciences) must complete 10 credits of prerequisites in certification studies in Architecture.

Students with a bachelor’s degree in social sciences and the arts must complete 15 credits of prerequirsites in Architecture, including 6 credits of certification studies.

Students with a three-year bachelor’s degree must complete a minimum of 20 credits of prerequisites, depending on their educational background.

Doctor of Philosophy

Doctorate of Architecture and Urbanism (PhD)

The doctoral degree demonstrates a distinguished achievement of knowledge and independent, original research ability in the field of Architecture and Urbanism. The program is open to candidates with a Master of Science in Architecture and Urbanism from the Technion, or an equivalent master of science degree, who have an excellent academic record (generally an average of 90 or above, or other noteworthy achievements approved by the track’s Admissions Committee). Acceptance to the PhD program is conditional on finding a doctoral advisor and submitting a description of the proposed field of research, which will be considered by the track’s Admission’s Committee. Candidates will be admitted only after their research proposal and doctoral advisor are approved by the Admissions Committee. The doctoral program is focused on research work and preparing the dissertation. The acquisition of knowledge is generally through guided independent study and reading in areas related to the research topic.

In addition to the Technion Graduate School’s requirements, students must take 6 credits or formal courses in topics related to the field of inquiry.

Research topics are chosen from a wide range of fields and areas.

Doctorate of Environmental Studies (PhD)

The program is open to candidates with a master’s degree in a range of fields and an excellent academic record, who are interested in research related to their field and environmental studies.

**Urban and Regional Planning**

The Urban and Regional Planning track offers two master’s degrees and two doctoral degrees:

* Master of Science in Urban and Regional Planning – thesis track
* Master of Urban and Regional Planning – non-thesis track
* Doctor of Philosophy (PhD) in Urban and Regional Planning
* Doctor of Philosophy (PhD) in Environmental Studies

**Master of Science in Urban and Regional Planning**

**Thesis track** – The Master’s program aims to equip students with professional training in urban and regional planning and provide the knowledge and professional tools needed to design policy and make decisions in the pertaining fields.

The Urban and Regional Planning track provides comprehensive training in planning and offers a range of professions in the fields of urban economics, real estate, land policy, ecology and the environment, urban sociology, environmental psychology, administrative and legal aspects, land and transportation use, and planning theory and ideology.

Students can choose from a wide range of research topics, suitable to their areas of interest. Graduates are employed in the public and private sectors, including government offices, local authorities, the Israel Land Authority, the Jewish Agency, environmental protection agencies, private development companies and planning agencies, as well as universities and research institutes. The program furnishes students with useful tools for decision-making in a range of areas, and therefore students find employment in planning positions in varied fields such as economics, environment, welfare, education and more.

**Admissions requirements**

Candidates with a bachelor’s degree in a range of fields including: Architecture, Engineering, Economics, Geography, Sociology, Political Science, Social Work, Law, Biology, Agriculture and more, who reflect the multi-disciplinary character of urban and regional planning. Candidates must have achieved a grade point average of 85 or above. Admissions are highly competitive and the number of places is limited, so the threshold for admission may be high. The program aims to accept candidates who represent a wide range of backgrounds.

**Curriculum requirements**

1. The number of credits required to complete the master’s degree is contingent on the student’s academic background, as detailed in the table below.
2. Two topics are defined as core topics, and courses in these topics are not counted towards the credits required for the master’s degree.
3. Students must complete four core courses (12 credits), three studio courses (projects – 12 credits), with the exception of architects and landscape architects who are required to take two studio courses (8 credits) and a varying number of electives.
4. Every student in this track must write a research thesis worth 20 credits or a capstone paper (worth 12 credits; if the capstone paper is chosen, an additional 8 course credits must be completed).

**Master of Urban and Regional Planning**

**Non-thesis track**

1. Credit requirements for the non-thesis masters depend on each student’s academic background, as detailed in the table below.
2. Two topics are defined as core topics, and courses in these topics are not counted towards the credits required for the master’s degree.
3. Students must complete four core courses (12 credits), three studio courses (projects – 12 credits), with the exception of architects and landscape architects who are required to take two studio courses (8 credits) and a varying number of electives.

In the non-thesis track, the total number of credits includes a required course of 5-6 credits, which constitutes the “final requirement.” The credits may be earned by writing a capstone project advised by a professor, worth 5-6 credits, or by writing a supplementary paper in an elective seminar under an advisor from the field, worth 2-3 credits, as an “Advanced Seminar in Urban and Regional Planning” (Course 209300), unique to this track.

**Credit requirements**

Credit requirements in the Master of Sciences in Urban and Regional Planning track:

|  |  |  |
| --- | --- | --- |
| Academic background | Credits in core topics\* | Advanced credits |
| Thesis track | Non-thesis track |
| 3-year Bachelors (social sciences, life sciences, etc) | 4 | 30 | 50 |
| Law | 4 | 27 | 47 |
| 4-year Bachelors (landscape architecture, engineering, etc) | 4 | 24 | 44 |
| 5-year Bachelors in Architecture | 4 | 20 | 40 |

\*Prerequisite courses may be required depending on student’s background

**Core courses\*\***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ה | ספ | ת | Credits |
| 205152 | Sociology for planners | 2 | - | - | 2.0 |
| 205571 | Economics of space and construction | 1 | 2 | - | 2.0 |
| Total |  | 3 | 2 | - | 4.0 |

\*\*Students without a basic background in Statistics must pass a Quantitative Thinking exam during their first year of studies.

**Core courses**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ה | ס פ | ת | Credits |
| 207001 | Theories of Planning  | 3 | - | - | 3.0 |
| 207070 | Land Use Planning | 3 | - | - | 3.0 |
| 209050 | Urban Economics | 2 | 2 | - | 3.0 |
| 207806 | Legal and Administrative Aspects of Planning | 3 | - | - | 2.0 |
| 207700 | Studio 1: Urban Planning | 2 | 4 | - | 4.0 |
| 207701 | Studion 2: Neighborhood Planning | 2 | 4 | - | 4.0 |
| 209700 | Regional and Metropolitan Planning | 2 | 4 | - | 4.0 |

**Ph.D. Doctor of Philosophy**

**Ph.D. in Urban and Regional Planning**

The doctorate demonstrates the highest degree of academic achievement and independent research skills in the field of specialization. Candidates must have a Master of Science in Urban and Regional Planning or an equivalent degree from a recognized academic institution, an excellent academic record and a demonstrated ability to meet the requirements for the Ph.D.

Generally, acceptance to the Ph.D. program in Urban and Regional Planning is contingent on finding an advisor from the program’s faculty who has agreed to the proposed research topic. Applications for the Ph.D. program are accepted year-round.

**Ph.D. in Environmental Studies**

Candidates who hold a Master of Science in a variety of fields (that are not Urban and Regional Planning), have an excellent academic record, and are interested in doing research in their own field as it relates to urban planning, are invited to apply. Required credits will be determined on an individual basis by the track committee, in accordance with their research topic. Acceptance to the program is contingent on finding an advisor from the faculty who has agreed on the research topic. Applications for the Ph.D. program are accepted year-round.

**Industrial Design**

The postgraduate degree program in Industrial Design trains students in production, research and development in industrial design, media design and engineering design and related professions, as they interface with technology and science, as applied to design thinking, hybrid design, consumer product design, interface design (UI and UX), design of smart objects (IoT), design challenges, design of medical devices, parametric design and artificial intelligence, virtual design, food design, social design, design of wearable technology, digital craft, transportation design, new materials design, design for low-resource settings, biologic design, marine design, design and space, design and ecology, and futuristic design.

The programs aim to provide the knowledge and theoretical, professional and investigative tools needed to spearhead processes of change that will suit the needs of the future and create cutting edge innovations for human use around the world, while awarding postgraduate degrees (masters and doctorate).

* The school offers the only academic Ph.D in Design in Israel
* The program is based on a series of active design laboratories led by faculty members who are leading researches and creators in their fields. The curriculum integrates extensive knowledge in design and media, new technologies and scientific research, and draws on collaborations with research laboratories and the Engineering and Science faculties at the Technion.
* The program incorporates stakeholders from the business, industrial and technology sectors, while forging opportunities for research, development and technological and social entrepreneurship. The study program is attentive to the complex processes that influence us as individuals, communities and global networks, and strives to find solutions for the vital necessities that are discovered through tireless inquiry, with an eye towards the future.
* The program offers a Hub of various disciplines and areas of expertise, and cultivates research, development and entrepreneurial collaborations between practitioners from different fields. Students will gain tools for collaborative work, management and methodology of innovation, and using design thinking as a theoretical and practical foundation.

**Admissions Requirements**

The program is open to students with a bachelor’s degree in Industrial Design (a four-year degree from a recognized academic institution), or a bachelor’s degree in related design fields such as visual communications, architecture, interior design, fashion design, jewelry design, ceramic design, textile design and fine arts from a recognized academic institution, as well as graduates with a bachelor’s degree in engineering fields such as mechanical engineering, industrial engineering and management, computer engineering, food engineering, automotive and aerospace engineering, etc.

Admissions decisions will be made for each candidate based on their achievements and educational and professional background, and contingent on their acceptance by the Technion’s Graduate School. In general, students who are admitted have completed a bachelor’s degree with a grade point average of 80 or above. In rare cases, the admissions committee will consider candidates with a lower grade point average, but no lower than 75 (the cutoff for acceptance into the Graduate School).

The admission decision will consider the following factors: declaration of intent, curriculum vitae, portfolio and university transcripts, which will be submitted to the program’s Admissions Committee. Suitable candidates will be invited for an interview. Students studying towards their bachelor’s degree may apply during their final year of studies but will only be invited for an interview upon fulfilling all preliminary requirements.

**Curriculum**

The program’s structure and curriculum are based on equivalent programs around the world, candidates’ academic background, the Technion’s unique character and the needs of the industry, both present and future.

The Industrial Design track offers two master’s degrees:

* Thesis track that leads to a Master of Science in Industrial Design (M.Sc.) with a research thesis or thesis project
* Non-thesis track that leads to a Master of Industrial Design (M.Id) with a capstone project.

**Study topics**

* Design and Entrepreneurship – in collaboration with the Bronica Entrepreneurship Center, the Department of Industrial Engineering and Management - StartUp MBA.
* UX/UI Interface Design – Virtual augmented reality design, in collaboration with Vislab, the Human Engineering Laboratory at the Department of Industrial Engineering and Management, and the Department of Computer Science.
* Interactive and Smart Object Design (IoT) – in collaboration with MUNDI Laboratory at the Department of Architecture and Town Planning and Microsoft’s IoT Lab at the Department of Computer Science.
* Design and Digital Craft – in collaboration with the T-Code Lab, MUNDI Lab, DMion Lab, and digital labs in the Industrial Design Department and other departments at the Technion.
* Biologic and Marine Design – in collaboration with the the Interunivesrity Institute for Marine Sciences in Eilat and the Department of Food Engineering and Biotechnology.

**Master of Science in Industrial Design (with thesis)**

The program is designed for highly motivated and capable students who are looking for an intellectual and professional challenge and wish to advance knowledge in the field by exploring an aspect of design research and practice in depth.

**Thesis track** 46 academic credits, as follows:

Core courses 17 credits

Electives 9 credits

Project/thesis 20 credits

Total 46 credits

**Master of Industrial Design MID**

The program is intended for designers, engineers, architects, industry and management professional, who are interested in deeping their academic-professional knowledge and enhancing the professional level in the field of Industrial Design in Israel, and boosting knowledge exchange between academia and industry. This program is not research based.

**Non-thesis track** 45 academic credits, as follows:

Core courses 17 credits

Electives 16 credits

Capstone Project 12 credits

Total 45 credits

**Core courses\***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ה | ס פ | ת | Credits |
| 206842 | Research, Development and Design | 3 | - | - | 3.0 |
| 206827 | Design, Technology and Innovation 1\*\* | 2 | - | - | 2.0 |
| 207045 | Introduction to Research Processes\*\* | 2 | - | - | 2.0 |
| 208310 | Industrial Design Studio 1 | 1 | - | 4 | 3.0 |
| 208320 | Industrial Design Studio 2 | 1 | - | 4 | 3.0 |
| 208314 | Industrial Design Studio 3 | 1 | - | 4 | 3.0 |
| 208315 | Industrial Design Studio 4 | 1 | - | 4 | 3.0 |

**\***Additional mandatory courses may be assigned by the Admissions Committee, depending on each candidate’s background

\*\* Completion one of these topics is required

**Ph.D. Doctor of Philosophy**

The Technion’s Industrial Design Department is the only one in Israel that offers a doctoral degree in Industral Design and approves selected students for a monthly subsistence scholarship.

**Admissions Requirements**

The program is designed for students with a Master of Science (with a thesis) in Industrial Design or Multidisciplinary Design, in accordance with the Technion Graduate School policy. Candidates with a non-thesis master’s degree are invited to apply, after meeting admission requirements for investigative research (as part of non-degree studies) approved by the school. Requirements are as follows:

1. Grade point average of 90 or above in advanced courses for the master’s degree, and a grade of 90 or above in the final thesis.
2. Candidates must provide two (or more) recommendations from lecturers at the Technion of other academic institutions, or from experts in the field (preferably from individuals with a post-graduate degree). One of the recommedations must be from the candidate’s advisor for the master’s thesis.
3. Candidates with a master of science in other fields relevant to the proposed research topic will be admitted after fulfilling 15 credits of prerequisites as part of the Continuing Education unit.

**Curriculum**

At least 10 credits are required, depending on the proposed dissertation topic. Required courses include Research Theory, at least one course on Research Methods and Statistics (depending on the offered courses and the chosen field of research, for 3 credits), and 2-3 courses related to the student’s field of research and previous experience. Additionally, students must meet all other requirements of the doctoral degree, in accordance with Graduate School policy.

**Landscape Architecture**

**Introduction**

In recent years, as issues of sustainability have come to the fore, landscape architecture has gained momentum around the world. Landscape architecture now stands at the forefront of contemporary design discourse, and landscape architects are faced with new professional and research challenges. The program emphasizes training professionals and researchers in the field.

**Master of Science in Landscape Architecture**

**Program objectives**

The program explores the theoretical and practical innovations taking shape around the world in the field of landscape architecture, with the goal of assimilating this knowledge into local practice and research, paying special attention to Israel’s unique local conditions. The program emphasizes areas that make up the theoretical basis and values of landscape architecture in Israel and identifies research topics in the field that would offer a significant contribution to local practice.

**History and theory of the construction of the Israeli space**

Although issues of landscape and environment have become popular research themes in the fields of architecture, geography, anthropology, environmental sciences and the arts, there is still no equivalent academic framework for research in the field of landscape architecture, let alone with an emphasis on Israeli space. The program focuses on the history of the construction of Israeli space, and the interactions between landscape design and other areas of knowledge. (The program is run in collaboration with equivalent tracks in the Architecture Department’s master’s program, and seeks collaborations with cultural studies and geography programs outside of the Technion.)

**Natural systems as the basis for creating sustainable environments**

Studying natural systems, their values and vulnerabilities, serves as the foundation for research in varied areas including: landscape ecology, species conservation and habitats, and the physical and strategic integration of national and regional infrastructure. (The program operates in collaboration with the Urban and Regional Planning Department in the School Architecture and Town Planning and the Civil and Environmental Engineering Department at the Technion.)

**Planning and design of public space**

In an era when urban living has become the dominant lifestyle around the globe, the character and traditional roles of public space are changing. The program focuses on public space as an arena of research and intervention, while noting the interactions between ecology and urban society in the Israeli landscape. (The program operates in collaboration with equivalent programs in the master’s degree in Architecture and the Urban and Regional Planning track, as well as the Civil and Environmental Engineering Department at the Technion.

**Program structure**

**Admissions requirements**

The program is oriented towards graduates of the Landscape Architecture track who hold a B.L.A, as well as graduates of the Architecture track who hold a B.Arch. Candidates with a bachelor’s degree in Engineering and other related fields may also be admitted.

**Preliminary requirements**

Students must pass Introduction to Landscape Architecture (204000) for 2 credits, as well as two courses selected by the Admissions Committee based on the student’s previous experience and intended field of research.

**Credit requirements**

The program is made up of three components: core subjects, electives related to the field of specialization, and a research thesis or thesis project with a planning/design emphasis.

Students are required to complete 44 credits, based on the following distribution:

Core courses 10 credits

Electives 14 credits

Thesis/Thesis project 20 credits

Total 44 credits

**Ph.D. Doctor of Philosophy**

The program addresses theoretical and practical innovations developing around the world in the field of Landscape Architecture, with the goal of assimilating this knowledge in local research and practice and with special attention to Israel’s unique local conditions. The program emphasizes areas that make up the theoretical basis and values of landscape architecture in Israel and identifies research topics in the field that would offer a significant contribution to local practice.

**Admissions requirements**

* The curriculum and admissions requirements are the in accordance with those of the School of Architecture and Town Planning and the Technion.
* Candidates must have a master’s in Landscape Architecture or other relevant field (as evaluated by the Admissions Committee) from the Technion or another recognized institution
* Candidates must have demonstrated excellence in research and academics (thesis grade and grade point average of 85 and above).
* Candidates who studied outside of Israel must have earned competitive scores on the GRE exam (general test).
* Candidates must provide 2-3 recommendations from other academic institutions, or from experts in the field (preferably from individuals with a post-graduate degree). One of the recommedations must be from the candidate’s advisor for the master’s thesis.

**Doctoral advisor**

* Candidates with a master’s degree in other fields will be required to complete prerequisites based on their proposed field of research and academic background.
* Acceptance to the doctoral program is contingent on finding an advisor from among the department’s faculty and submitting a research proposal, which must be approved by the Landscape Architecture Admissions Committee.

**Curriculum requirements**

Doctoral candidates must complete at least 12 credits in topics related to their proposed field of research:

* One course in Research Theory (Philosophy of Science, 2 credits)
* One course (or more) in Research Methods
* Seminar in Landscape Architecture for doctoral candidates (guided reading or other)
* 1-4 courses related to their proposed field of research and depending on their previous knowledge, as decided by the track’s Admissions Committee

Students with a non-research master’s degree will be required to do preliminary research approved by the Graduate School.

**Additional information**

Graduate Studies Coordinator

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