DIPLOMA SUPPLEMENT

Higher Education System in Israel

Degrees

Higher education in Israel is a three-tiered system offering Bachelor's, Master's and Doctoral degree programs. Programs granting Bachelor's degrees (e.g., BA, BSc, BSN, BSW) usually last three or four years. Completion of this first degree qualifies students for admission to subsequent degree programs. Master's degree programs generally last two years and offer a thesis or non-thesis tracks. Students who complete a Master's degree with a research track are eligible for admission to Doctorate programs. Each university determines additional admissions requirements. Doctorate programs generally last four to six years and are offered in various disciplines.

Access to Higher Education

Israeli institutes of higher education generally require a matriculation diploma and a standardized psychometric examination. The exact requirements vary depending on the institution and field of study. Programs may have additional requirements such as entrance interviews, examinations, or artistic portfolios. Admission requirements for all programs are determined on a competitive basis by the institution and are approved by Israel's Council for Higher Education (CHE).

Types of Higher Education Institutions

Israel has 61 academic institutions: nine universities (including the Open University) and 31 academic colleges that award Bachelor's and Master's degrees. Currently, only research universities offer research PhD degrees.

Government Agencies

The Council for Higher Education (CHE), established according to the Council for Higher Education Act 1958, is the regulatory body responsible for the academic aspects of all institutions of higher education in Israel. According to the Council for Higher Education Act, higher education institutions are accredited by the Quality Assessment Division of the CHE at the study program level in universities and colleges.

Ruppin Academic Center

With 5000 students, Ruppin Academic Center (RAC) is one of the largest public colleges in Israel. It was established in 1949 by Israel's first Prime Minister, David Ben Gurion.

Today, RAC awards 21 undergraduate (BA, BSc, BSN, BSW) and graduate degrees (MA, MBA, MSc) in Marine Sciences, Engineering, Social and Community Sciences, Economics and Management. RAC offers innovative study programs committed to developing knowledge and professional competencies that address Israel's most vital social and economic challenges.

Ruppin Academic Center has been consistently awarded top ratings in satisfaction surveys conducted among Israel's higher education student population.

The Ruppin Academic Center has four faculties:

The Faculty of Economics and Business Administration awards BA degrees in Economics and Accounting, Economics and Management, Business Administration, and a Global Master's in Business Administration (MBA).

The Faculty of Social and Community Sciences awards Bachelor's degrees in Behavioral Sciences (BA), Nursing Sciences (BSN), and Social Work (BSW) and Master's degrees in Immigration and Social Integration, Organizational Psychology, Clinical Psychology (with thesis), and Clinical Psychology of Adulthood and Aging.

The Faculty of Engineering awards BSc degrees in Industrial Engineering and Management, Computer Engineering, Electrical and Electronics Engineering, Computer and Information Sciences, and MA degrees in Logistics and Global Supply Chain.

The Faculty of Marine Sciences awards BSc degrees in Marine Environmental Sciences and Marine Biotechnology, Master's degrees in Marine Resource Management and MSc degree in Marine Sciences (with thesis).

The Faculty of Engineering awards BSc degrees in Industrial Engineering and Management, Computer Engineering, Electrical and Electronics Engineering, Computer and Information Sciences, and MA degrees in Logistics and Global Supply. The Faculty offers a variety of programs and specializations tailored to the high-tech industry's current and anticipated future needs. The Faculty is at the forefront of Israel's colleges. In addition to basic studies in engineering and sciences, it offers select content and majors that open the door to a wide range of employment opportunities in engineering in general and in the areas of specialization. As part of the undergraduate programs, students have access to advanced labs that cover the latest technologies and disciplines in electrical engineering and electronics, computer engineering, computer and information sciences, and industrial engineering and management.

The Faculty offers four CHE-accredited undergraduate programs: BSc degrees in Electrical and Electronics Engineering, Computer Engineering, Computer and Information Sciences, and Industrial Engineering and Management, and a CHE-accredited MA in Logistics and Global Supply Chain.

Undergraduates (BSc) in Industrial Engineering and Management - Profile

As detailed below, graduates of this department will have general knowledge in the field and specific knowledge in one of the four elective specializations listed.

General Level

Graduates will be able to:

- Use analytical and engineering methods supported by advanced information systems to address a range of issues, including process improvement, production planning and supervision, engineering design, quality assurance, project management, human factor engineering, and human resources;
- Assess the economic viability of projects using statistical tools and methods relevant to mapping and analyzing organizational processes;
- Assess a situation existing in an organization and identify measurement indices;
- Define requirements for new information systems, including planning the system's logic, planning data collection process for the future system, designing and configuring a database, implementing the design in a DBMS system environment, writing complex queries that introduce, retrieve, and modify information stored in a database, and analyzing transactions in a parallel processing environment;
- Work with supporting software (CASE tools) such as EXCEL, SPSS, ARENA, ERP, CIM, Visio, BI Qlik Sense, MS-SQL, and open-source software systems for statistical calculations, data mining, data processing, building models, and machine learning.

Specialization - Manufacturing and Services in a Digital Environment

Graduates of this specialization will be able to:

- Analyze the factors that advance or hamper an organization's achievements;
- Propose ways to increase throughput, reduce overhead and cost, and integrate the organization's human resources with its technological and logistical resources;
- Analyze and improve an organization's work processes and consider the technological, engineering, behavioral, and information systems using statistical, analytical, heuristic, and simulation methods and tools;
- Analyze and improve organizational structures in a way that will serve its core processes.

Specialization - Information Systems Engineering

Graduates of this specialization will be able to:

- Handle the theoretical and practical aspects of all stages in an information system's life cycle, from initiation and development to implementation;
- Analyze the managerial and technological aspects of information; analyze problems and needs; assess an existing situation;
- Analyze business processes identifying shortcomings; present technical solutions, and develop solutions accessible to the target users based on their needs;
- Apply cutting-edge technological methods and tools that deal with information and information systems;
- Integrate these methods and tools into business corporations and research and development institutions;
- Handle various innovative software languages (from the client side and the server side) for developing internet systems (full stack languages taught in this specialization include: JavaScript, ReactJS, HTML5, and C#);
- Manage and analyze data and information using SQL tools, BI, Big Data science, communication networks, and information security;
- Propose and develop an information system for a corporate client or a digital enterprise.

Specialization - Business Entrepreneurship and Technological Innovation

After studying the specialization's courses and completing the final project, graduates will:

- Have a solid understanding of the basic principles of entrepreneurship and business;
- Understand the major issues relevant to new business ventures;
- Be able to identify, evaluate, and assess entrepreneurs' knowledge and abilities;
- Be able to observe, learn about, and be integrated into an entrepreneurial environment;
- Be able to develop and communicate business principles;
- Understand the primary resources that exist for creating a business model;
- Be able to create an economic business model.

Specialization - Data Science

Graduates of this specialization will be able to:

- Collect, process, and analyze information from databases, especially Big Data;
- Apply descriptive statistics and statistical inference tools;
- Perform complex queries on relational and non-relational databases (NoSQL);
- Use algorithms from artificial intelligence and learning systems to promote an organization, create added value for it, and provide it with a competitive advantage;
- Develop models for predicting and identifying patterns, recommendation systems, etc.;
- Develop thinking strategies and algorithms based on data science and use the relevant tools to integrate them into technological projects in the field.