Efi Arazi School of Computer Science

B.Sc. in Computer Science

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The program of the Double Major in B.A in Entrepreneurship and B.Sc. in Computer Science is available in the Entrepreneurship School Printed Handbook

A great deal of effort has been expended in preparing this handbook, in order to ensure that its content is complete and accurate. However, changes and alterations to the information are possible. The IDC Herzliya Academic Authorities may cancel, alter or add courses and/or specialization programs, and generate changes in the times of lectures or in the assigned lecturer. Such changes will be published over the course of the year by various means, such as the online handbook on the IDC Herzliya website, and will apply to all IDC Herzliya students, including students of the Raphael Recanati International School, unless specified otherwise.

Introduction

The curriculum of the B.Sc undergraduate degree in Computer Science includes:

- 17 mandatory and elective courses in Computer Science
- 7 mandatory courses in Mathematics
- 2 English courses
- 4 Business Administration or Entrepreneurship courses
- 4 general elective courses

First Year
First-year students are required to take basic courses in Computer Science, Mathematics, and English. This year is dedicated to mandatory courses only, comprising 48 credits (including English courses).

Second Year
Second-year students are required to take mandatory courses in Computer Science, as well as a Business Administration. Students are also required to take one Computer Science elective course. This year comprises 44 credits.

Third year
Third-year students are required to complete their mandatory Computer Science and English requirements, and take additional Computer Science elective courses. This year comprises 26 credits.
To pass the course you must get at least 60 in the final exam

In addition to the above, each student is required to take general elective courses comprising 8 credits throughout their studies, to expand their general knowledge.

Students may choose general elective courses out of all courses offered on campus, provided that the courses are available and that the students meet their prerequisites. Registration for cross-campus courses will be done by applying to the Student Administration during the registration period.

Overall, the B.Sc. students are required to complete 126 credits.

Program of Studies

First Year
B.Sc in Computer Science

Course Code	Course Name	Lecture Hours	Recitation Hours	Total Credit Points	Prerequisites	Final Course Assignment
Fall Semester Courses						
52	Calculus I Dr. Yossi Shamai	4	2	6		Exam
54	Linear Algebra I Dr. Avner Halevy	4	2	6		Exam
56	Discrete Mathematics Dr. Elette Boyle	3	2	5		Exam
417	Introduction to Computer Science Prof. Shimon Schocken	4	2	6		Exam
110	English for CS Advanced 2 Ms. Rebecca Haddad	3		2		Exam
Spring Semester Courses						
53	Calculus II Dr. Yossi Shamai	3	2	5	Calculus I	Exam
55	Linear Algebra II Dr. Avner Halevy	3	2	5	Linear Algebra I	Exam
59	Data Structures TBA	3	2	5	Int. to CS	Exam
69	Logic and Set Theory Dr. Elette Boyle	3	2	5	Discrete Math	Exam
3144	System Programming in C Ms. Sara Geizhals	3		3	Intro. to CS Data Structures (simultaneously)	Exam
110	English for CS Advanced 2 Ms. Rebecca Haddad	3		2		Exam
	Total Credits			**48**		

In addition to the mandatory courses, all CS students are required to take 8 credits of General Elective Courses during the course of their studies. The courses can be chosen out of all courses offered on campus, provided that the courses are available and that the students meet their prerequisites.

Second Year
B.Sc in Computer Science

Course Code	Course Name	Lecture Hours	Recitation Hours	Total Credit Points	Prerequisites	Final Course Assignment
Fall Semester Courses						
77	Algorithms Prof. Tami Tamir	3	2	5	Discrete Math Data Structures Logic and Set Theory	Exam
79	Digital Architectures Dr. Danny Seidner	3	2	4	Int. to CS, Discrete Mathematics	Exam
109	Introduction To Probability Mr. Max Mahlin	3	2	4	Discrete Math Calculus I	Exam
3030	Advanced Programming Mr. Meir Yaakov	3	1	4	Int. to CS	Exam
Spring Semester Courses						
643	Automata And Formal Languages Dr. Rina Zivel-Girshin	3		4	Discrete Math Logic and Set Theory	Exam
84	Operating Systems TBA	3	1	4	Data Structures Digital Architectures System Programming in C	Exam
3141	Machine Learning from Data Dr. Zohar Yakhini	3	2	4	Calculus I, II Algebra I, II Algorithms Int. to Probability	Exam

Business Administration courses

As part of the Computer Science program, all students are required to take four Business Administration courses.

Course Code	Course Name	Lecture Hours	Recitation Hours	Total Credit Points	Prerequisites	Final Course Assignment
Fall Semester Courses						
76	Business Law Adv. Joel Slawotsky	3		3		Exam
152	Introduction to Microeconomics Dr. Carolina Silva	3		3		Exam
Spring Semester Courses						
81	Principles of Marketing Management Dr. Hagit Perry	3		3	Int. to Micro.	Exam
89	Fundamentals of Finance Mr. Erez Levy	3		3		Exam

Computer Science Elective Courses[1]

2nd year students are required to choose one Computer Science elective course.

Prerequisites for each Computer Science elective course are a passing grade in all of the first year mandatory courses in CS and Mathematics, in addition to the specific prerequisites of each course, as detailed below:

Fall Semester Courses

3004	Securing Information Systems Dr. Amit kleinmann	3	3	Exam
3153	Virtual Reality Development Mr. Amir Yatziv	3	3	Paper

Spring Semester Courses

287	Digital Systems Construction• Prof. Shimon Schocken	3	3	Exam
3125	Object Oriented Programming with C# and .NET Mr. Guy Ronen	3	3	Middle Semester Exam (date will be published)

Total Credits 44

• This course is part of the M.Sc. curriculum

In addition to the mandatory courses, all CS students are required to take 8 credits of General Elective Courses during the course of their studies. The courses can be chosen out of all courses offered on campus, provided that the courses are available and that the students meet their prerequisites.

[1] The CS elective courses are offered in English. Students are welcome to choose a course offered in Hebrew, as detailed in the handbook of the Hebrew program.

Third Year
B.Sc in Computer Science

Course Code	Course Name	Lecture Hours	Recitation Hours	Total Credit Points	Prerequisites	Final Course Assignment
Fall Semester Courses						
592	Computer Networks Prof. Gadi Taubenfeld	3	1	4	Algorithms Operating Systems	Exam
643	Automata And Formal Languages Prof. Yacov Hel-Or	3		4	Discrete Math Logic and Set Theory	Exam
Spring Semester Courses						
644	Computability and Complexity Dr. Shay Mozes	3	1	4	Automata And Formal Languages	Exam
164	Introduction to Computer Graphics * Prof. Ariel Shamir	3	1	4	Algorithms	Exam
282	English for CS – Presentations ♦ Mr. Barry Katz	3		1		Presentation

* This course in an online course, except for the first and last sessions which will require physical attendance in class – on the days and times stated in the schedule

Computer Science Elective Courses[1]

3rd year students are required to choose three Computer Science elective courses.
Prerequisites for each Computer Science elective course are a passing grade in all of the first year mandatory courses in CS and Mathematics, in addition to the specific prerequisites of each course, as detailed below:

Fall Semester Courses						
3119	Guided Project Faculty Staff	3		3	1st year courses and Guidance approval	Project
3004	Securing Information Systems Dr. Amit.Kleinmann	3		3		Exam
3153	Virtual Reality Development Mr. Amir Yatziv	3		3		Paper

[1] The CS elective courses are offered in English. Students are welcome to choose a course offered in Hebrew, as detailed in the handbook of the Hebrew program.

3620	Statistics and Data Analysis ●● Prof. Zohar Yakhini	3	1	3		Exam
3600■	Deep Learning●● Dr. Kfir Bar	3		3	Machine Learning from Data	Paper
3604	Data Streaming Algorithms and Online Learning ●●● Dr. Aviv Yehezkel	3		3		Paper
3615	Blockchain, Consensus, and Cryptography ●● Dr. Elette Boyle	3		3		Paper

Spring Semester Courses

287	Digital Systems Construction ● Prof. Shimon Schocken	3		3		Exam
3125	Object Oriented Programming with C# and .NET Mr. Guy Ronen	3		3		Middle Semester Exam (date will be published)
3128	Build your Own Computer Dr. Danny Seidner	3		3	Digital Architectures	Exam
3158	Scientific Computing with Python Dr. Yoav Ram	3		3	Introduction To Probability	Paper
3605	Introduction to Big Data●●● TBA	3		3		Exam
3606	Topics in Data Mining and Genomics●●● TBA	3		3		Exam

Total Credits 26

♦ Intensive course. The specific dates will be published on the course website.

▲ For 3rd year students only. The course is on a personal guidance basis and is spread over the entire academic year..

● This course is part of the M.Sc. curriculum

●● This course is part of the M.Sc. curriculum, and is open for B.Sc. students with a total GPA of 75 and above.

●●● This course is part of the M.Sc. curriculum, and is open for B.Sc. students with a total GPA of 80 and above.

■ Students who take the course "Deep learning" (code 3600), cannot take the course "Image Understanding with Deep Learning" (code 3598) and vice versa.

In addition to the mandatory courses, all CS students are required to take 8 credits of General Elective Courses during the course of their studies. The courses can be chosen out of all courses offered on campus, provided that the courses are available and that the students meet their prerequisites.

Exam Schedule

The dates of the examinations can be found on the IDC Herzliya website under
Students > Student Information > Course Catalog, Student Regulations and Syllabus > Search Exams

A personal examinations schedule is published at the Student's Information website (My IDC).