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 Reichman University 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 university website, and will apply to all Reichman University 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
- 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.
One of the computer science elective course can be a guided project. Student can have credit only on one guided project.

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.

Within the **elective computer science courses** you may choose a guided field project, either a personal project or a lab project.
You cannot execute more than one guided field project. If a student did more than one guided field project, one of them will be added to the extra courses and won't be listed on the main transcripts of grades. The Media Innovation Lab (Milab) and InGame are considered guided field projects.

As part of computer science elective courses, students may register to MSc elective courses. You can find the list of M.Sc. courses is updated in the student handbook.
A student who has completed one or more MSc elective courses may request, at the end of his/her degree, to convert only one of them into a binary grade.

Academic English Requirements

Every student must fulfill the academic English requirements until the end of the second year of studying (in the three year program) and until the end of the third year of studying (in the four year program).
A student who doesn't achieve the required exemption on time won't be able to finish the degree and will have to add another year.
In order to get an exemption the student must provide the required grade in either the Amir, the Amiram, TOEFL, the Psychometric or the SAT test or pass the Computer Science English Advanced 2 course.

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

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. Menachem Shlossberg	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. Ran Choen	3	2	5	Linear Algebra I	Exam
59	Data Structures Dr. Ben Lee Volk	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 Dr. Ohad Fried	3	1	4	Int. to CS	Exam
Spring Semester Courses						
643	Automata And Formal Languages Prof. Yacov Hel-Or	3		4	Discrete Math Logic and Set Theory	Exam
84	Operating Systems Dr. Haim Zlatokrilov	3	1	4	Data Structures Digital Architectures System Programming in C	Exam
3141	Machine Learning from Data Prof. Zohar Yakhini Prof. Ariel Shamir Dr. Leon Anavi	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. Dana Turjeman	3		3	Int. to Micro.	Paper
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

3354	3D Animation with Unreal Engine 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)
3157	Internet of Things (IoT): Hands On Mr. Tom Zamir	3	3	Paper

Total Credits **44**

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
644	Computability and Complexity Prof. Shay Mozes	3	1	4	Automata And Formal Languages	Exam
Spring Semester Courses						
80	Functional and Logic Programming TBA	3	1	4	Int. to CS Data Structures	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
3354	3D Animation with Unreal Engine Mr. Amir Yatziv	3		3		Paper
3169	Artificial intelligence and Morality Dr. Udi Boker Dr. Aviv Gaon	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.

3559	Coding Theory●● Dr. Elette Boyle	3		3	Algorithms	Exam
3575	Probabilistic Models for Data Analysis●● Dr. Ilan Gronau	3		3	Algorithms, Introduction To Probability	Exam
3600	Deep Learning●● Dr. Chaim Baskin Dr. Kfir Bar	3		3	Machine Learning from Data	Paper
3620	Statistics and Data Analysis ●●● Prof. Zohar Yakhini	3	1	4	Machine Learning from Data Introduction To Probability	Exam
3626	Blockchain and Cryptocurrency●● Prof. Tal Moran	3		3		Paper
3639	Recommendataion Systems ●● Dr. Asnat Massica	3		3	Machine Learning from Data	Exam

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)
3157	Internet of Things (IoT): Hands On Mr. Tom Zamir	3		3		Paper
3327	Numerical Optimization with Python Dr. Yonathan Mizrahi	3		3		Paper

3523	Natural Language Processing●● Mr. Amir Choen Dr. kfir Bar	3	3	Algorithms Machine Learning from Data	Paper
3655	Unsupervised Learning Methods ●● Dr. Or Yair	3	3	Machine Learning from Data Introduction To Probability	Paper
3676	Advenced Statistics●● Dr. Alon Kipnis	3	3	Calculus II Linear Algebra Introduction To Probability **Register only with lecturer approval.**	Exam
3684	Advanced topics in Machine Learning ●● Dr. Leon Anavy	3	3	Machine Learning from Data	Paper
	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.

◘ Please note: a student can only register to **one guided project during his/her degree**. ("Ingame Workshop" (3134) and "Guided Field Project-Media Innovation Lab" (3120) Are considered guided projects)

●● 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.

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 university 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).