- The M.Sc. program is a two-year program.
- The chairperson of the teaching committee is: **Dr. Anat Bernstein.**
- Students are required to complete the following courses during the two-year program:

Subject	**Credits**
Courses within the track of study A. **A Mandatory course** (2 credit points) B. **Core courses** (10 credit points) C. **Departmental and student seminars** (1 credit point) D. **Mandatory Core Courses Within the Track of Study** (7 credit points) E. **Elective courses** (8 credit points) F. **General courses** (2 credits)	30
Thesis Writing	12
Total	**42**

A. Mandatory Course:

Course #	**Lecturer**	**Subject**	**Credits**
001-2-7006	Dr. Shai Arnon and Prof. Jack Gilron	Summarizing, Writing and Presenting Scientific Data	2

or

Course #	**Lecturer**	**Subject**	**Credits**
001-2-0153	Dr. Chris Arnush and Prof. Jack Gilron	Writing a Scientific Paper	2

B. Core Courses:

Students are required to complete all courses from the list below*.

Course #	**Lecturer**	**Subject**	**Credits**
001-2-0003	Dr. Oded Nir	Chemistry of Water	3

B. Core Courses (Continuation):

Course #	Lecturer	Subject	Credits
001-2-0016	Dr. Roy Bernstein	Physicochemical Technologies for Water Treatment	2
001-2-5024	Prof. Ofer Dahan	Groundwater Hydrology	2
001-2-5059	Dr. Osnat Gillor	Water Microbiology	3

+Nonmicrobiologists may take the course:

Course #	Lecturer	Subject	Credits
001-2-5159	Dr. Osnat Gillor	Introduction to Microbiologists	1

***** Students who previously completed courses that were similar/equivalent to certain courses listed above are required to complete the remainder of the required core course credits by enrolling in courses either from the list of Mandatory Core Courses (C) or from the list of Elective Courses (D) or from a combination of both (with the approval of the student's supervisor and the chairperson of the teaching committee).

C. Seminars and Thesis Writing -- Mandatory Courses:

Students are required to attend Departmental Seminars (one seminar per semester)

Course #	Lecturer	Subject	Credits
001-2-5555	Dr. Chris Arnusch (coordinator)	Departmental Seminar A (first year)	0
001-2-5557		Departmental Seminar B (first year)	0
001-2-5556		Departmental Seminar A (second year)	0
001-2-5558		Departmental Seminar B (second year)	0

C. Seminars and Thesis Writing -- Mandatory Courses (Continuation):

Students are required to present two seminars (one student seminar per year).

Course #	Lecturer	Subject	Credits
001-2-9995	Prof. Ali Nejidat (coordinator)	Student Seminar (first year)	0.5
001-2-9996		Student Seminar (second year)	0.5

In the third and fourth semesters, students must register for Thesis Writing.

Course #	Lecturer	Subject	Credits
001-2-9991		Thesis Writing A	6
002-2-9992		Thesis Writing B	6

Students who have completed the above Thesis Writing courses and who continue their studies for a fifth semester must register for the following course:

Course #	Lecturer	Subject	Credits
001-2-1000		Thesis Writing – Continuation	0

D. Mandatory Core Courses Within the Track of Study:

Students are required to complete at least 7 credits*.

Course #	Lecturer	Subject	Credits
001-2-0004	Prof. Noam Weisbrod	Vadose Zone Hydrology	2.5
001-2-5005	Prof. Amit Gross, Prof. Zeev Ronen	Laboratory Methods for Environmental Studies	3
001-2-5011	Prof. Zeev Ronen	Environmental Microbiology	2
001-2-5060	Prof. Moshe Herzberg	Biological Processes in Wastewater Treatment	2
001-2-5062	Dr. Edo Bar-Zeev	Microbial Sociology: From a Single Bacterium to Biofilm and Biofouling	3

***** Mandatory Core Courses can be also selected as Elective Courses (on top of the required 7 credits).

E. Elective Courses:

This is a partial list. The student is allowed to select other courses that are related to the area of his/her research with the approval of the supervisor. Students are required to complete at least 8 credits.

Course #	Lecturer	Subject	Credits
001-2-0009	Dr. Avraham Be'er	Physics of Bacterial Communities	3
001-2-0010	Prof. Jack Gilron	Principles for Synthesis of Hybrid Processes for Water Treatment	2
001-2-0012	Prof. Daniel Ronen	Selected Issues Related to Groundwater Hydrology: Quality & Quantity	2
001-2-0015	Dr. Roy Bernstein	Membrane Preparation and Characterization	3
001-2-0017	Dr. Roni Kasher	Polymer Science and Polymeric Membranes	2
001-2-0021	Dr. Christopher Arnush	Biomimetic Innovation Approaches	2
001-2-0022	Dr. Anat Bernstein	Stable Isotope Application in Contaminant Hydrology	2
001-2-0030	Dr. Anat Bernstein and Prof. Amit Gross	Lab Methods in Soil Science	3
001-2-2015	Prof. Dina Zilberg, Prof. Amit Gross	Introduction to Aquaculture	3
001-2-3021	Dr. Itamar Giladi	Bio-Statistics - ANOVA and Design of Experiments	3
001-2-4028	Prof. Arnon Karnieli	Remote Sensing for Agriculture, Rangelands, and Forestry (no prerequisites required)	3
001-2-4031	Prof. Isaak Rubinstein	Topics in Physico-Chemical Hydrodynamics and Electrodiffusion - A	2
001-2-4033	Prof. Isaak Rubinstein	Topics in Physico-Chemical Hydrodynamics and Electrodiffusion - B	2
001-2-4047	Dr. Iris Visoli-Fisher	Surface Science for the Environment	3
001-2-4049	Dr. Arik Yochelis	Nonlinear Dynamical Aspects of Electrochemical Systems	3

E. Elective Courses (Continuation):

Course #	Lecturer	Subject	Credits
001-2-5006	Prof. Alex Yakirevitch	Migration Processes in the Unsaturated Zone of Soil	3
001-2-5010	Prof. Zeev Ronen	Groundwater Microbiology	2
001-2-5012	Prof. Zeev Ronen	Biodegradation Process of Synthetic Organic Compound in Water Soil	2
001-2-5014	Prof. Shaul Sorek	Introduction to Modeling Transport Phenomena in Heterogeneous Media	3
001-2-5026	Prof. Ali Nejidat	Nitrogen Transformations and Environmental Quality	2
001-2-5028	Prof. Moshe Herzberg	Microbial Biofilms in Water and Wastewater Treatment Processes (prerequisite: Introduction to Microbiology)	2
001-2-5029	Prof. Noam Weisbrod	Rural Water Development	2
001-2-5034	Prof. Yoram Oren	Environmental Oriented Electrochemistry	2
001-2-5038	Prof. Amit Gross	Water Sanitation	3
001-2-5040	Dr. Eli Zaady	Soil Microbial Ecology	2
001-2-5041	Dr. Menachem Sklartz	Practical Bioinformatics for Environmental Studies	3
001-2-5042	Dr. Roni Kasher	Amino Acids and Peptides: Chemistry and Biology	2
001-2-5044	Dr. Arnon Shai	Biogeochemical Processes in Surface Water Systems	3
001-2-5061	Dr. Edo Bar-Zeev	Nexus of the Desalination Industry and the Aquatic Environment	3
001-2-5063	Dr. Edo Bar-Zeev	Lab-course: New Methods in Biofilm Characterization	3
001-2-5065	Dr. Shai Arnon	Flow and water quality in streams: Theory and practice	3

E. Elective Courses (Continuation):

Course #	Lecturer	Subject	Credits
001-2-5066	Dr. Scott K. Hansen	Scientific computing with MATLAB and Python	3
001-2-5067	Dr. Scott K. Hansen	Introduction to contaminant hydrology	3
001-2-5068	Dr. Oded Nir	Aqueous Chemistry Modeling with PHREEQC	2
001-2-5129	Prof. Noam Weisbrod	Rural Water Development (field trip) Prerequisite: Course # 001-2-5029	2
001-2-6002	Dr. Aviva Peeters	Theory and Applications of Geographic Information Systems (GIS) (limited to 15 students)	3

F. General Courses:

Students are required to complete 2-3 credits.

Course #	Lecturer	Subject	Credits
001-2-4029	Prof. Yosef Ashkenazi	Introduction to Statistics and Probability	3
001-2-5006	Prof. Alex Yakirevich	Migration Processes in the Unsaturated Zone of Soil	3
001-2-5015	Prof. Alex Yakirevich	Introduction to Contaminant Hydrology	3
001-2-6012	Prof. Moshe Schwartz	Guided Reading in Water Politics in Arid Regions	2