HYDROLOGY AND WATER QUALITY

TIME TABLE FOR THE FALL SEMESTER (A)- ACADEMIC YEAR 2020/2021

A. Mandatory Courses:

Students are required to complete one of the courses from the list below during in their first or second semester of studies:

Offered in the Fall semester

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0153	Prof. Shai Arnon and Dr. Chris Arnush	Writing a Scientific Paper - Group 1	2	Tue	10:15-12:00	Sede Boqer	School	1	Average of Home Assignments
OR									
001-2-0153	Prof. Shai Arnon and Dr. C hris Arnush	Writing a Scientific Paper - Group 2	2	Tue	13:15-15:00	Sede Boqer	School	1	Average of Home Assignments

OR

Offered in the Sring semester

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0153	Prof. Shai Arnon and Dr. C hris Arnush	Writing a Scientific Paper - Group 1	2	Mon	09:00-10:45	Sede Boqer	School	1	Average of Home Assignments

Students are required to complete the courses from the list below during in their **first** semester of studies:

900-5-5001 Educational Software on Getting to Know the Law for the Prevention of Sexual Harassment - **MANDATORY** for all students. The course is in **Hebrew** http://moodle2.bgu.ac.il/?lang=en).https://bgu4u.bgu.ac.il/pls/scwp/!app.gate?app=csh and **English**

900-5-2002 Training in Chemical & Biological Safety - **MANDATORY** for Students Who Work in Chemical and Biological Labs (Students should take the course every year. **Registration for the course is in the first and third semesters.** The course is in **Hebrew** https://moodle2.bgu.ac.il/moodle/ and **English** in the moodle system

470-2-0100 The Care and Use of Animals in Research - **MANDATORY** for Students Who Work with Animals

MICROBIOLOGY AND WATER QUALITY

B. Core Courses:

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

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0016	Dr. Roy Bernstein	Physicochemical Technologies for Water Treatment	2	Mon	14:15-16:00	Sede Boqer	Water Inst.	Seminar Room	Mid Term Exam, Final Term Exam
001-2-5024	Prof. Ofer Dahan	Groundwater Hydrology	2	Wed	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-5059	Prof. Osnat Gillor	Water Microbiology	3	Thu	09:15-12:00	Sede Boqer	Water Inst.	Seminar Room	Take-Home Exam

* 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) and Student Seminars (one seminar per year).

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room
001-2-5555	Dr. Chris Arnusch (Coordinator)	Departmental Seminar A (first year)	0	Wed	13:00-14:00	Sede Boqer	Old Admin. Build.	Seminar Room
001-2-5557		Departmental Seminar B (first year)						
001-2-5556		Departmental Seminar A (second year)						
001-2-5558		Departmental Seminar B (second year)						

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

Course No.	Lecturer	Subject	Credits
001-2-9991	--	Thesis Writing A	6
001-2-9992	--	Thesis Writing B	6

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

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

Course No.	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 No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5005	Prof. Amit Gross, Prof. Zeev Ronen	Laboratory Methods for Environmental Studies	3	An eight-day intensive course offered during the FALL break , ====, Water Building, Seminar Room. Course registration takes place during the registration period for the SPRING semester.					Final Term Paper
001-2-5011	Prof. Zeev Ronen	Environmental Microbiology	3	Thu	14:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Exam

** 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 No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0017	Prof. Roni Kasher	Polymer Science and Polymeric Membranes	3	Mon	11:15-14:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-0022	Dr. Anat Bernstein	Stable Isotope Application in Contaminant Hydrology	2	Tue	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-2015	Prof. Dina Zilberg, Prof. Amit Gross	Introduction to Aquaculture	3	Tue	12:15-15:00	Sede Boqer	Biology	32	Exam
001-2-3021	Dr. Itamar Giladi	Biostatistics: ANOVA and Design of Experiments - Class	3*	Tue	08:30-10:00	Sede Boqer	Biology	32	Take-Home Exam
		Biostatistics: ANOVA and Design of Experiments - Exercise		Wed	09:15-11:00	Sede Boqer	Man in the Drylands	Computer Room	
001-2-4028	Prof. Arnon Karnieli	Remote Sensing for Agriculture, Rangelands, and	3	Tue	15:00-17:45	Sede Boqer	Physics	Seminar Room	Exam
001-2-4031	Prof. Isaak Rubinstein	Topics in Physico-Chemical Hydrodynamics and Electrodiffusion (A)	2	Flexible - according to the schedules of the students					Final Term Paper

001-2-5014	Prof. Shaul Sorek	Introduction to Modeling Transport Phenomena in Heterogeneous Media (ninimum 3 students)	3	Contact the Lecturer	Final Term Paper

*0 credit points for students in the Ecology and Nature Conservation department.

E. Elective Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5028	Prof. Moshe Herzberg	Microbial Biofilms in Water and Wastewater Treatment Processes (prerequisite: Introduction to Microbiology)	2	Tue	15:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5029	Prof. Noam Weisbrod	Rural Water Development (ninimum 12 students)	2	Mon	16:15-18:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5034	Prof. Yoram Oren	Environmental Oriented Electrochemistry	2	Mon	09:15-11:00	Sede Boqer	Water Inst.		Exam
001-2-5065	Prof. Shai Arnon	Flow and Water Qquality in Sstreams: Theory and Practice	3	Wed	14:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Field Work Report
001-2-5068	Dr. Oded Nir	Aqueous Chemistry Modeling with PHREEQC	2	An intensive workshop offered during the FALL or SUMMER break.					Final Term Paper
001-2-5066	Dr. Scott K. Hansen	Scientific computing with MATLAB and Python	3	Tue	12:15-15:00	Sede Boqer	Water Inst.	Seminar Room	Four Take-Home Programming Assignments
001-2-5159	Prof. Osnat Gillor	Introduction to Microbiology	1	A semi intensive course during the second week of the first semester for non-biologists who take the 001-2-5059 Water Microbiology course .					Final Term Paper

F. General Courses:

Students are required to complete no more than 2-3 credits.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-4029	Prof. Yosef Ashkenazy	Introduction to Statistics and Probability	3	Wed	09:15-12:00	Sede Boqer	Physics	Seminar Room	Exam

WATER RESOURSES

B. Core Courses:

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

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments

001-2-0016	Dr. Roy Bernstein	Physicochemical Technologies for Water Treatment	2	Mon	14:15-16:00	Sede Boqer	Water Inst.	Seminar Room	Mid Term Exam, Final Term Exam
001-2-5024	Prof. Ofer Dahan	Groundwater Hydrology	2	Wed	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam

B. Core Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5059	Prof. Osnat Gillor	Water Microbiology	3	Thu	09:15-12:00	Sede Boqer	Water Inst.	Seminar Room	Take-Home Exam

Nonmicrobiologists may take the course:

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5159	Prof. Osnat Gillor	Introduction to Microbiology	1	A semi intensive course during the second week of the first semester for non-biologists who take the 001-2-5059 Water Microbiology course .					Final Term Paper

* 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 No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room
001-2-5555	Dr. Chris Arnusch (Coordinator)	Departmental Seminar A (first year)	0	Wed	13:00-14:00	Sede Boqer	Old Admin. Build.	Seminar Room
001-2-5557		Departmental Seminar B (first year)						
001-2-5556		Departmental Seminar A (second year)						
001-2-5558		Departmental Seminar B (second year)						

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

Course No.	Lecturer	Subject	Credits
001-2-9991	--	Thesis Writing A	6
001-2-9992	--	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 course.

Course No.	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 No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments

001-2-5005	Prof. Amit Gross, Prof. Zeev Ronen	Laboratory Methods for Environmental Studies	3	An eight-day intensive course offered during the FALL break , ====, Water Building, Seminar Room. Course registration takes place during the registration period for the SPRING semester.	Final Term Paper

****** 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 .

Students are required to complete at least 8 credits.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0017	Prof. Roni Kasher	Polymer Science and Polymeric Membranes	3	Mon	11:15-14:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-0022	Dr. Anat Bernstein	Stable Isotope Application in Contaminant Hydrology	2	Tue	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-2015	Prof. Dina Zilberg, Prof. Amit Gross	Introduction to Aquaculture	3	Tue	12:15-15:00	Sede Boqer	Biology	32	Exam
001-2-3021	Dr. Itamar Giladi	Biostatistics: ANOVA and Design of Experiments - Class	3*	Tue	08:30-10:00	Sede Boqer	Biology	32	Take-Home Exam
		Biostatistics: ANOVA and Design of Experiments - Exercise		Wed	09:15-11:00	Sede Boqer	Man in the Drylands	Computer Room	

001-2-4010	Prof. Georgy Burde	Topics in Environmental Fluid Mechanics – A	3	Flexible - according to the schedules of the students					Final Term Paper
001-2-4028	Prof. Arnon Karnieli	Remote Sensing for Agriculture, Rangelands, and Forestry (no prerequisites required)	3	Tue	15:00-17:45	Sede Boqer	Physics	Seminar Room	Exam
001-2-5014	Prof. Shaul Sorek	Introduction to Modeling Transport Phenomena in Heterogeneous Media (ninimum 3 students)	3	Contact the lecturer					Final Term Paper
001-2-5028	Prof. Moshe Herzberg	Microbial Biofilms in Water and Wastewater Treatment Processes (prerequisite: Introduction to Microbiology)	2	Tue	15:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5029	Prof. Noam Weisbrod	Rural Water Development (ninimum 12 students)	2	Mon	16:15-18:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper

001-2-5030	Prof. Nurit Agam	Hydrometeorology	3	Wed	15:00-17:45	Sede Boqer	Biology	32	Final Term Paper or Take-Home Exam
001-2-5034	Prof. Yoram Oren	Environmental Oriented Electrochemistry	2	Mon	09:15-11:00	Sede Boqer	Water Inst.	Computer Room	Exam

*0 credit points for students in the Ecology and Nature Conservation department.

E. Elective Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5055	Prof. Naftali Lazarovitch, Prof. Ofer Dahan	Operation and Analysis of Environmental Monitoring Systems	1	A semi intensive course offered during the FALL break ===== and =====, 09:00-13:00, Water Building, Seminar Room. Another day for presentations will be determined during the course. Course registration takes place during the registration period for the semeste B					Final Term Paper
001-2-5065	Prof. Shai Arnon	Flow and Water Qquality in Sstreams: Theory and Practice	3	Wed	14:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Field Work Report
001-2-5066	Dr. Scott K. Hansen	Scientific computing with MATLAB and Python	3	Tue	12:15-15:00	Sede Boqer	Water Inst.	Seminar Room	Four Take-Home Programming Assignments
001-2-5068	Dr. Oded Nir	Aqueous Chemistry Modeling with PHREEQC	2	An intensive workshop offered during the FALL or SUMMER break.					Final Term Paper
001-2-5100	Dr. Genady Carmi	Introduction to Surface Hydrology	2	Tue	10:15-12:00	Sede Boqer	48	2	Exam

F. General Courses:

Students are required to complete no more than 2-3 credits.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-4029	Prof. Yosef Ashkenazy	Introduction to Statistics and Probability	3	Wed	09:15-12:00	Sede Boqer	Physics	Seminar Room	Exam

DESALINATION AND WATER TREATMENT

B. Core Courses:

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

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0016	Dr. Roy Bernstein	Physicochemical Technologies for Water Treatment	2	Mon	14:15-16:00	Sede Boqer	Water Inst.	Seminar Room	Mid Term Exam, Final Term Exam

001-2-5024	Prof. Ofer Dahan	Groundwater Hydrology	2	Wed	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-5033	Dr. Avraham Be'er**	Introduction to Desalination Processes	3	Sun	09:15-12:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5059	Prof. Osnat Gillor	Water Microbiology	3	Thu	09:15-12:00	Sede Boqer	Water Inst.	Seminar Room	Take-Home Exam

Nonmicrobiologists may take the course:

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5159	Prof. Osnat Gillor	Introduction to Microbiology	1	A semi intensive course during the second week of the first semester for non-biologists who take the 001-2-5059 Water Microbiology course .					Final Term Paper

* 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).

** A mandatory course in this list.

C. Seminars and Thesis Writing - Mandatory Courses:

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

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room
001-2-5555	Dr. Chris Arnusch (Coordinator)	Departmental Seminar A (first year)	0	Wed	13:00-14:00	Sede Boqer	Old Admin. Build.	Seminar Room
001-2-5557		Departmental Seminar B (first year)						
001-2-5556		Departmental Seminar A (second year)						
001-2-5558		Departmental Seminar B (second year)						

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

Course No.	Lecturer	Subject	Credits
001-2-9991	--	Thesis Writing A	6
001-2-9992	--	Thesis Writing B	6

Students who have completed the above Thesis Writing courses and who continue theirregister for studies for a fifth semester must register for the course.

Course No.	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 5 credits**.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5028	Prof. Moshe Herzberg	Microbial Biofilms in Water and Wastewater Treatment Processes (prerequisite: Introduction to Microbiology)	2	Tue	15:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper

** Mandatory Core Courses can be also selected as Elective Courses (on top of the required 5 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

Students are required to complete at least 5 credits.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0017	Prof. Roni Kasher	Polymer Science and Polymeric Membranes	3	Mon	11:15-14:00	Sede Boqer	Water Inst.	Seminar Room	Exam

E. Elective Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-0022	Dr. Anat Bernstein	Stable Isotope Application in Contaminant Hydrology	2	Tue	08:30-10:00	Sede Boqer	Water Inst.	Seminar Room	Exam
001-2-2015	Prof. Dina Zilberg, Prof. Amit Gross	Introduction to Aquaculture	3	Tue	12:15-15:00	Sede Boqer	Biology	32	Exam
001-2-2017	Prof. Simon Barak	Plant Perception, Transduction and Response to Environmental Signals (limited to 10 students)	2	Thu	10:15-12:00	Sede Boqer	Biology	32	Oral presentation
001-2-2036	Prof. Gideon Grafi	Molecular Biology and Epigenetics	2	Thu	08:30-10:00	Sede Boqer	Biology	32	Take Home Exam
001-2-2038	Prof. Naftali Lazarovitch	Soil Physics	3	Tue	15:15-18:00	Sede Boqer	Biology	32	Final Term Paper
001-2-2040*	Prof. Gideon Grafi	Lab Course in Epigenetics	4	A five-day intensive course offered during the FALL break, ========, 09:00-15:00, Agriculture Building, Room No. 32. Course registration takes place during the registration period for the FALL semester.					Lab Report
001-2-3021	Dr. Itamar Giladi	Biostatistics: ANOVA and Design of Experiments - Class	3**	Tue	08:30-10:00	Sede Boqer	Biology	32	Take-Home exam
		Biostatistics: ANOVA and Design of Experiments - Exercise		Wed	09:15-11:00	Sede Boqer	Man in the Drylands	Computer Room	
001-2-4010	Prof. Georgy Burde	Topics in Environmental Fluid Mechanics – A	3	Flexible - according to the schedules of the students					Final Term Paper
001-2-4012	Prof. Isaak Rubinstein	Electro-Diffusion of Ions and Membrane Desalina	3	Flexible - according to the schedules of the students					Final Term Paper

001-2-4022	Prof. Ehud Meron	Pattern Formation and Spatial Ecology	3	Mon	13:15-16:00	Sede Boqer	Physics	Seminar Room	Final Term Paper
001-2-4028	Prof. Arnon Karnieli	Remote Sensing for Agriculture, Rangelands, and	3	Tue	15:00-17:45	Sede Boqer	Physics	Seminar Room	Exam

*The course constitutes of three sessions of field tour (around 4 h each), which will take place during the Fall semester, for collecting annual and perennial desert plants nearby the campus and processing the samples, that is nuclei preparation and fixation. These materials will be used during the one-week-lab course at the semester break for the analysis of epigenetic constraints employed by desert plants in their natural habitats. Registration: Fall semester.

**0 credit points for students in the Ecology and Nature Conservation department.

E. Elective Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-5030	Prof. Nurit Agam	Hydrometeorology	3	Wed	15:00-17:45	Sede Boqer	Biology	32	Final Term Paper or Take-Home Exam
001-2-5029	Prof. Noam Weisbrod	Rural Water Development (ninimum 12 students)	2	Mon	16:15-18:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5034	Prof. Yoram Oren	Environmental Oriented Electrochemistry	2	Mon	09:15-11:00	Sede Boqer	Water Inst.	Seminar Room	Final Term Paper
001-2-5055	Prof. Naftali Lazarovitch, Prof. Ofer Dahan	Operation and Analysis of Environmental Monitoring Systems	1	A semi intensive course offered during the FALL break ===== and =====, 09:00-13:00, Water Building, Seminar Room. Another day for presentations will be determined during the course. Course registration takes place during the registration period for the semeste B.					Submission of written report to the course supervisors for each process studied
001-2-5065	Prof. Shai Arnon	Flow and Water Qquality in Sstreams: Theory and Practice	3	Wed	14:15-17:00	Sede Boqer	Water Inst.	Seminar Room	Field Work Report
001-2-5066	Dr. Scott K. Hansen	Scientific computing with MATLAB and Python	3	Tue	12:15-15:00	Sede Boqer	Water Inst.	Seminar Room	Four Take-Home Programming Assignments
001-2-5068	Dr. Oded Nir	Aqueous Chemistry Modeling with PHREEQC	2	An intensive workshop offered during the FALL or SUMMER break.					Final Term Paper
001-2-5100	Dr. Genady Carmi	Introduction to Surface Hydrology	2	Sun	10:15-12:00	Sede Boqer	48	2	Final Term Paper
205-2-7032	Prof. Amos	Solving Problems with R - Class	2	Thu	08:00-10:00	Beer			

203-2-7032	Bouskila	Solving Problems with R - Exercise	2	Thu	10:00-12:00	Sheva			

F. General Courses:

Students are required to complete no more than 4 credits.

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-4016	Dr. Leah Orlovsky	Geography of Desertification	2	Sun	12:15-14:00	Sede Boqer	Physics	Seminar Room	Exam

F. General Courses (Continuation):

Course No.	Lecturer	Subject	Credits	Day	Time	Campus	Building	Room	Final Assignments
001-2-4029	Prof. Yosef Ashkenazy	Introduction to Statistics and Probability	3	Wed	09:15-12:00	Sede Boqer	Physics	Seminar Room	Exam