**List of courses of the B.Sc. Program**

| **Course No.** | **Course Title** | **Course Type**\* (mand./elect/seminar/other) | **No. Of Credits** | **Prerequisites for Admission** | **Weekly Teaching Hours** | **Weekly Tutorial Hours** | **Weekly Lab Hours** | **Field Exc.** | **Semester** | **Notes** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|
| 206-11031 | Introduction to Minerals and Rocks | Mandatory | 4 |  | 2 | 1 | 2 | 2 | 1 |  |
| 206-11041 | Introduction to Dynamic Geology | Mandatory | 3.5 | Introduction to Minerals and Rocks | 2 | - | 2 | 2 | 2 |  |
| 206-11051 | Geometrical Crystallography | Mandatory | 1 |  | - | 2 | - | - | 1 |  |
| 206-11111 | Introduction to Environmental Geology | Mandatory | 1.75 | Introduction to Minerals and Rocks | 1 | - | - | 3 | 2 |  |
| 206-11121 | Introduction to Paleontology | Mandatory | 2 |  | 2 | - | - | - | 1 |  |
| 206-11123 | Lab in Introduction to Paleontology | Mandatory | 1 | Introduction to Paleontology ^ | - | - | 2 | - | 1 |  |
| 206-11134 | Minerals and Rocks in the Field | Mandatory | 1 | Introduction to Minerals and Rocks | - | - | - | 4 | 1/2 |  |
| 206-12031 | Introduction to Environmental Oceanography | Mandatory E&H.T. Elective Rest of tracks | 3 |  | 3 Teaching &Tutorial | - | - | - | 2 |  |
| 206-12071 | Introduction To Geomechanics | Mandatory | 2.5 | Physics 1C | 2 | 1 | - | - | 1 |  |
| 206-12093 | Soil Mechanics Laboratory | Mandatory E.G.T Elective Rest of tracks | 1 | Introduction To Geomechanics**^** | - | - | 2 | - | 1 |  |
| 206-12121 | Igneous and Metamorphic Petrology | Mandatory | 4 | Principles of Sedimentary Geology + Mineralogy + Introduction to Physical Chemistry 1 | 2.5 | 0.5 | 2 | 1 | 2 |  |
| 206-12174 | Field Trip in Geomechanics | Mandatory E.G.T Elective Rest of tracks | 0.5 | Introduction To Geomechanics^ | - | - | - | 2 | 1 |  |
| 206-12191 | Introduction To Geochemistry | Mandatory | 2.5 | Introduction to Dynamic Geology + Introduction to Physical Chemistry 1 | 2 Teaching &Tutorial | 1 | - | - | 2 |  |
| 206-12201 | Principles of Sedimentary Geology | Mandatory | 5.25 | Introduction to Mineralogy and Rocks+ Introduction to Paleontology | 4 | 2 | - | 1 | 1 |  |
| 206-12241 | Mineralogy | Mandatory | 3 | Introduction to Minerals and Rocks + Geometrical Crystallography + Introduction to Dynamic Geology+ Minerals and Rocks in the Field | 2 | - | 2 | - | 1 |  |
| 206-12251 | Mapping | Mandatory | 3.5 | Principles of Sedimentary Geology | 2 Teaching &Tutorial | - | - | 6 | 2 |  |
| 206-12261 | Geology of Israel A | Mandatory | 2 | Introduction to Dynamic Geology + Igneous and Metamorphic Petrology | 2 | - | - | - | 1 |  |
| 206-12284 | Regional Field Trip 1 | Mandatory | 1 | Introduction to Dynamic Geology + Principles of Sedimentary Geology^ | - | - | - | 4 | 1/2 |  |
|  |
| 206-12301 | Instrumental Methods in Geochemistry | Elective | 2 | General Chemistry - Laboratory+ | 2 | - | - | - | 1 |  |
| Introduction to Analytical Chemistry B |  |
| 206-12311 | Structural Geology | Mandatory | 3.5 | Introduction to Dynamic Geology +Physics 1C + Calculus C1/ Differential and Integral Calculus 1 for EE | 2 | 2 | - | 2 | 2 |  |
| 206-12321 | Map Analysis | Elective | 2 | Structural Geology^ | 2 | - | - | - | 1 |  |
| 206-12341 | Introduction to Computing for the Geoscientists | Mandatory | 1.5 | Introduction to Linear Algebra C | 1 | 1 | - | - | 2 |  |
| 206-13041 | Introduction to Geophysics | Mandatory | 2.5 | Introduction to Dynamic Geology+ Introduction to Computing for the Geoscientists+ Physics 1C | 2 | 1 | - | - | 1 |  |
| 206-13091 | Plate Tectonics | Mandatory | 2.5 | Introduction to Geophysics | 2 | 1 | - | - | 2 |  |
| 206-13131 | Igneous Petrology | Elective | 3 | Principles of Sedimentary Geology | 2 | - | 2 | - | 2 |  |
| 206-13251 | Fossil Fuels & Non-Metallic Deposits | Elective | 2 | Principles of Sedimentary Geology+ | 2 | - | - | - | 2 |  |
| Structural Geology^ |
| 206-13304 | Regional Field Trip 2 | Elective | 1.25 | Principles of Sedimentary Geology+ Introduction to Dynamic Geology + Igneous and Metamorphic Petrology | - | - | - | 5 | 1 |  |
| 206-13314 | Regional Field Trip 3 | Elective | 1.25 | Structural Geology+ Introduction to Dynamic + Igneous and Metamorphic Petrology Structural Geology | - | - | - | 5 | 1 |  |
| 206-13391 | Introduction to Hydrology | Mandatory | 2 | Principles of Sedimentary Geology^ | 2 | - | - | - | 1 |  |
| 206-13531 | Seminar (and Student Seminar) | Mandatory | 2 |  | 2 | - | - | - | 2 |  |
| 206-13691 | Research Project | Elective | 4 |  | 4 | - | - | - | 1/2/3 |  |
| 206-13733 | Atomic Absorption Spesctrometry | Elective | 0.5 |  | - | - | 1 | - | 1 |  |
| 206-13751 | Biogeochemistry of the Coral Reef | Elective | 3 |  | 3 | - | - | - | 1/2 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-13761 | Research Methods In Oceanography | Elective | 3 |  | 3 | - | - | - | 1 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-13781 | Stable Isotopes in The Narine Environment | Elective | 2.25 |  | 1 | - | 1 | 3 | 2 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-13831 | Methods In Evolutionary Paleobiology | Mandatory GL DD, Elective Rest of tracks | 2 | Introduction to Paleontology | 2 | - | - | - | 1 |  |
| 206-13851 | Pedology | Elective | 2.25 | Introduction to Minerals and Rocks | 2 | - | - | 1 | 2 |  |
| 206-19891 | Research Project | Elective GL DD | 8 |  | 8 | - | - | - |  |  |
| 206-13901 | Selected Topics in Geology A | Elective | 2 |  | 2 |  |  |  | 2 |  |
| 206-13993 | Rock Mechanics Laboratory | Mandatory E.G.T, Elective rest of tracks | 2 | Introduction To Geomechanics | - | - | 4 | - | 2 |  |
| 206-23801 | Introduction to Vadose Zone Hydrology | Elective | 2.5 | Introduction to Hydrology | 2 | 1 | - | - | 2 |  |
| 206-23861 | Rock Tunneling\* | Mandatory E.G.T, Elective rest of tracks | 2.25 | Introduction To Geomechanics | 2 | - | - | 1 | 2 | \*One of the following two courses is mandatory:  206-23861/206-23871 |
| 206-23871 | Rock Slope Stability\* | Mandatory E.G.T, Elective rest of tracks | 3 | Introduction To Geomechanics | 2 | 1 | - | 2 | 2 | \*\*One of the following two courses is mandatory:  206-23861/206-23871 |
| 206-23891 | Marine Sedimentology: Collection, Description and Interpretation of Red Sea Sediments | Elective | 3 |  | 3 | - | - | - | 1 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-23921 | Reservior Rock Mechanics | Mandatory E.G.T, Elective rest of tracks | 2.5 |  | 2 | 1 | - | - | 2 |  |
| 206-23951 | Stable and Radioactive Isotopes in Aqueous Systems | Mandatory E&H.T. Elective Rest of tracks | 3 |  | 3 | - | - | - | 2 |  |
| 206-23981 | Microtectonics | Mandatory E.G.T | 2 |  | 2 | - | - | - | 2 |  |
| 206-23991 | Chemical Oceanography | Elective | 3.25 |  | 3 | - | - | 1 | 2 |  |
| 206-24014 | Field Exercises in Structural Geology | Elective | 1.5 |  | - | - | - | 6 | 2 |  |
| 206-24071 | Geomicrobiology | Elective | 2 |  | 2 | - | - | - | 2 |  |
| 206-24074 | Geological Excursion (Overseas) 1 | Elective | 2.25 |  | - | 2 | - | 5 | 1 |  |
| 206-24191 | Geochemistry of Water | Elective | 2 | Introduction To Geochemistry + Introduction to Hydrology | 2 | - | - | - | 1 |  |
| 206-24301 | Advanced Structural Geology | Elective | 2 |  | 2 | - | - | - | 2 |  |
| 206-24341 | The Geological Evolution of the Eastern Mediterranean | Elective | 2 |  | 2 | - | - | - | 1 |  |
| 206-24401 | Microfacies of Tethyan Limestones | Elective | 3 |  | 2 | 2 | - | - | 2 |  |
| 206-24451 | Fluids in Petrology | Elective | 2 |  | 2 | - | - | - | 2 |  |
| 206-24501 | Petroleum Geology | Elective | 3 |  | 3 | - | - | - | 1 |  |
| 206-24631 | Environmental Organic Geochemistry | Elective | 3 | Introduction to Organic Chemistry | 2 | 2 | - | - | 2 |  |
| 206-24721 | Basin Analysis | Elective | 3 | Introduction to Dynamic Geology+ Principles of Sedimentary Geology+ Structural Geology | 2 | 2 | - | - | 2 |  |
| 206-24771 | Introduction to Thermodynamics and Kinetics in Geological Processes | Elective | 2 |  | 2 | - | - | - | 1 |  |
| 206-24791 | Selected Topics from the Geology of Israel and the Middle East | Elective | 2 |  | 1 | - | - | 4 | 1 |  |
| 206-24851 | Advanced Field Geology | Elective | 3 |  | 2 | - | - | 6 | 2 |  |
| 206-25031 | Limnology and Water Quality – Physical, Chemical and Biological Processes in Lake Kinneret | Elective | 2.5 |  | 2.5 | - | - | - | 2 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-25061 | Oil and Gas Reservoir Engineering | Elective | 2 |  | 2 | - | - | - | 2 |  |
| 206-25081 | Migration of Solutes and Contaminants in Groundwater | Elective | 2.5 | Introduction to Hydrology+ CalculusC1 | 2 | 1 | - | - | 1 |  |
| 206-25131 | Earth Sciences Education | Elective | 3 |  | 3 | - | - | - | 2 |  |
| 206-25141 | Geology of Southern Israel since the Late Neogene | Elective | 2.5 |  | 2 | - | - | 2 | 2 |  |
| 206-25151 | Isotopic Geochronology and Paleotemperature Determination | Elective | 2 | Introduction to Physical Chemistry 1+ Introduction To Geochemistry | 2 | - | - | - | 1 |  |
| 206-25184 | Mapping in a Crystalline Terrain | Elective | 2.5 | Introduction to Mineralogy and Rocks+ Introduction to Dynamic Geology+ Igneous and Metamorphic Petrology+ Mineralogy | - | 2 | - | 6 | 2 |  |
| 206-25191 | Paleoecology | Elective | 2.25 | Introduction to Paleontology + Principles of Sedimentary Geology | 2 | - | - | 1 | 1 |  |
| 206-25211 | Igneous Petrology | Elective | 3 | Igneous and Metamorphic Petrology | 2 | - | 2 | - | 1 |  |
| 206-25231 | World Stratigraphy | Elective | 2 | Principles of Sedimentary Geology+ Structural Geology | 2 | - | - | - | 2 |  |
| 206-25261 | Flow and Transport in the Unsaturated Zone | Elective | 2 |  | 2 | - | - | - | 2 |  |
| 206-25291 | Environmental Perspectives of Water Resources in Israel | Elective | 2.25 |  | 2 | - | - | 2 | 2 |  |
| 206-25301 | Ore Deposits | Elective | 2 | Igneous and Metamorphic Petrology | 2 | - | - | - | 2 |  |
| 206-25311 | Groundwater Hydrology | Elective | 2.5 | Introduction to Hydrology | 2 | 1 | - | - | 1 |  |
| 206-25331 | Topics in Physical Oceanography | Elective | 3.5 |  | 2 | - | 3 | - | 2 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-25371 | Geology and Geophysics of the Marine Environment | Elective | 3 |  | 2 | - | 1 | 2 | 2 | Given by the Interuniversity Institute for Marine Sciences in Eilat |
| 206-25381 | Applied Micropaleontology | Elective | 3 |  | 1 | - | 3 | 2 | 2 |  |
| 206-25401 | Geomorphology: Mechanics and Evolution of Landscapes | Mandatory D.G.T, Elective Rest of tracks | 4.5 |  | 3 | 2 | - | 2 | 1 |  |
| 206-25501 | Introduction to Physical Oceanography | Elective | 1 |  | 1 | - | - | - | - |  |
| 206-25901 | Analytical Methods in Geochemistry | Elective | 3 |  | 2 | 1 | 1 | - | 2 |  |
| 206-26011 | Introduction to Flow and Transport Processes in Streams | Elective | 3 |  | 3 | - | - | - | 1 |  |
| 206-26061 | Foraminifera as Bioindicators of Marine Environments | Elective | 2.5 |  | 1 | - | 2 | 2 | 2 |  |
| 206-26201 | Petrophysics and Well Logging | Elective | 2.5 |  | 2 | - | 1 | - | 1 |  |
| 206-26091 | Introduction to exploration geophysics | Elective | 3 |  | 3 | - | - | - | 2 |  |
| 206-29321 | Problems in Water Pollution | Elective | 2 |  | 2 | - | - | - | 1 |  |
| 128-11101 | Introduction to Meteorology & Climatology | Mandatory E&H.T | 4 |  | 4 | - | - | - | 2 |  |
| 153-15051 | Advanced English 2 | Mandatory | 2 |  | 4 | - | - | - |  |  |
| 170-10041 | Hebrew for Immigrants - Level VI | Mandatory | 0 |  | 6 | - | - | - |  | ? |
| 201-10131 | ראש הטופס  Probability Theory 1תחתית הטופס | Mandatory GC DD | 3.5 | ראש הטופס | 3 | 1 | - | - | 1 |  |
| 201-10201 | Introduction to Logic and Set Theory | Mandatory GC DD | 5 |  | 4 | 2 | - | - | 1 |  |
| 201-19041 | Linear Algebra for Structural Engineering | Mandatory GC DD | 4.5 |  | 4 | 1 | - | - | 2 |  |
| 201-19091 | Introduction to Probability A | Mandatory E.G.T | 2.5 | Calculus C1 | 2 | 1 | - | - | 1 |  |
| 201-19101 | Introduction to Probability B | Mandatory D.G.T, E&H.T, G.B.T, GL DD | 2.5 | Calculus C1 | 2 | 1 | - | - | 2 |  |
| 201-19141 | Calculus C1 | Mandatory D.G.T, E&H.T, E.G.T, G.B.T, G.C.T, GL DD | 5 |  | 4 | 2 | - | - | 1 |  |
| 201-19151 | Calculus C2 | Mandatory E.G.T, G.C.T | 5 | Calculus C1 | 4 | 2 | - | - | 2 |  |
| 201-19281 | Introduction to Linear Algebra C | Mandatory D.G.T, E&H.T, E.G.T, G.B.T, G.C.T, GL DD | 3.5 |  | 3 | 1 | - | - | 2 |  |
|  |
| 201-19421 | Introduction to Statistics A | Mandatory E.G.T, GC DD | 2.5 | Introduction to Probability A | 2 | 1 | **-** | **-** | 2 |  |
| 201-19811 | Differential and Integral Calculus 1 for EE | Mandatory GC DD | 5 |  | 4 | 2 | - | - | 1 |  |
| 201-19821 | Differential and Integral Calculus 2 for EE | Mandatory GC DD | 6 | Differential and Integral Calculus 1 for EE | 5 | 2 | - | - | 2 |  |
| 202-11011 | Introduction to Computer Science | Mandatory GC DD | 5 |  | 4 | 2 | - | - | 1 |  |
| 202-11031 | Data Structures | Mandatory GC DD | 5 | Introduction to Logic and Set Theory + Introduction to Computer Science | 4 | 2 | - | - | 2 |  |
| 202-11061 | ראש הטופס  Discrete Structures and Combinatorics תחתית הטופס | Mandatory GC DD | 5 | Introduction to Logic and Set Theory+ Algebra 1 | 4 | 2 | - | - | 2 |  |
| 202-12011 | Automata Formal Languages & Computability | Mandatory GC DD | 5 | Introduction to Logic and Set Theory + Discrete Mathematics + Data Structures | 3 | 2 | - | - | 1 |  |
| 202-12031 | Systems Programming | Mandatory GC DD | 5 | Data Structures | 4 | 1.5 | 0.5 | - | 1 |  |
| 202-12041 | Design of Algorithms | Mandatory GC DD | 5 | Data Structures+ Automata Formal Languages Computability | 4 | 2 | - | - | 2 |  |
| 202-12051 | Principles of Programming Languages | Mandatory GC DD | 4 | Data Structures+ Automata Formal Languages & Computability | 4 | 2 | - | - | 2 |  |
| 202-12091 | Computer Architecture and system programming laboratory | Mandatory GC DD | 4 |  | 2.25 | 1 | 2 | - | 2 |  |
| 202-13011 | Introduction to Numerical Analysis | Mandatory G.C.T, GC DD | 4.5 | Differential and Integral Calculus 2 for EE+ Introduction to Computer Science | 4 | 1 | - | - | 1 |  |
| 202-13021 | ראש הטופס  Compiler Principles  תחתית הטופס | Mandatory GC DD  תחתית הטופס | 4.5 | Principles of Programming Languages+ Automata Formal Languages & Computability+ Computer Architecture and system programming laboratory | 4 | 1 | - | - | 1 |  |
| 202-13031 | Operating Systems | Mandatory GC DD | 5 | Systems Programming+ Computer Architecture+ System Programming Laboratory+ extended System Programming Laboratory | 4 | 2 | - | - | 2 |  |
| 203-11331 | Physics 1C | Mandatory | 4 | Calculus C1+ Differential and Integral Calculus 1 for EE | 3 | 2 | - | - | 2 |  |
| 203-11431 | Physics 2C | Mandatory | 4 | Physics 1C | 3 | 2 | - | - | 1 |  |
| 204-11531 | General Chemistry B | Mandatory | 3.5 | - | 3 | 1 | - | - | 1 |  |
| 204-11543 | General Chemistry - Laboratory | Mandatory D.G.T, E&H.T, G.B.T, GL DD | 2 | Introduction to Analytical + Chemistry B | - | - | 4 | - | 2 |  |
| 204-11611 | Introduction to Analytical Chemistry B | Mandatory | 3 |  | 2 | 2 | - | - | 1 |  |
| 204-11621 | Introduction to Physical Chemistry 1 | Mandatory | 3 | Calculus C1/ Differential and Integral Calculus 1 for EE + General Chemistry B | 2 | 2 | - | - | 2 |  |
| 204-11721 | Introduction to Organic Chemistry | Mandatory E&H.T | 3.5 |  | 3 | 1 | - | - | 2 |  |
| 204-12611 | Introduction to Physical Chemistry 2 | Mandatory D.G.T, GL DD | 2 | Calculus C1+ General Chemistry B | 1.5 | 1 | - | - | 2 |  |
| 204-15042 | Introduction to Organic Chemistry - for Life Sciences and Geology students | Mandatory D.G.T, GL DD | 5 | General Chemistry B | 3 | 1 | - | - | 2 |  |
| 205-11021 | Invertebrate Zoology | Mandatory G.B.T, GL DD | 2.25 |  | 1.5 | - | 1.5 | - | 1 |  |
| 205-11031 | Vertebrate Zoology | Mandatory. G.B.T, GL DD | 2.75 | Invertebrate Zoology^ | 2 | - | 1.5 | - | 1 |  |
| 205-11071 | Microbiology | Mandatory. GL DD | 4 | The Cell | 2 | - | 4 | - | 1 |  |
| 205-11121 | Plant Physiology | Mandatory GL DD | 3.5 | Plant Science A | 3 | 1 | - | - | 2 |  |
| 205-11223 | Plant Science A - Lab | Mandatory GL DD | 1.5 | Plant Physiology^ | - | - | 3 | - | 2 |  |
| 205-11611 | Genetics A | Mandatory. G.B.T, GL DD | 3 | Introduction to Probability B + The Cell+ Introduction to Statistics B | 2 | 2 | - | - | 1 |  |
| 205-11273 | Basic Lab. in Biochemistry | Mandatory GL DD | 1.5 | General Chemistry- Laboratory+ Biochemistry A | - | - | 3 | - | 2 |  |
| 205-11451 | Ecological Workshop B | MandatoryGL DD Ecological track | 4 | Introduction to Ecology Ecology B | 1.5 | 2 | - | 6 |  |  |
| 205-13111 | Introduction to Ecology | Mandatory. G.B.T, GL DD | 3.5 | Introduction to Statistics B | 2 | 2 | - | 2 | 1 |  |
| 205-13171 | Evolution | Mandatory. GL DD | 3 | Genetics A+ Biochemistry A+ Biochemistry B | 2 | 2 | - | - | **1** |  |
| 205-13491 | Biochemistry of Nucleic Acids | Mandatory GL DD | 2.5 | General Chemistry B | 2 | 1 | - | - | 1 |  |
| 205-13493 | From Gene to Protein- A Laboratory Course | Mandatory GL DD | 1.5 | Biochemistry of Nucleic Acids**^** | - | - | 3 | - | 1 |  |
| 205-19011 | The Cell | Mandatory G.B.T, GL DD | 2.5 |  | 2 | - | 1 | - | 1 |  |
| 205-19161 | Animal Physiology | Mandatory GL DD | 3 | The Cell | 3 Teaching and Tutorial | - | - | - | 2 |  |
| 205-19171 | Biochemistry A | Mandatory GL DD | 3 | The Cell+ Introduction to Physical Chemistry 1+ Introduction to Physical Chemistry 2+ Introduction to Organic Chemistry | 2 | 2 | - | - | 1 |  |
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| 205-19181 | Biochemistry B | Mandatory GL DD | 3 | Biochemistry A | 2 | 2 | - | - | 2 |  |
| 205-19191 | Genetic Engineering | Mandatory GL DD | 2.5 | Introduction to Statistics B | 2 | 1 | - | - | 2 |  |
| 205-19401 | Introduction to Statistics B | Mandatory D.G.T, E&H.T, G.B.T, GL DD | 2.5 |  | 2 | 1 | - | - | 1 |  |
| 299-11121 | Library Orientation | Mandatory | 0 |  | - | - | - | - |  |  |
| 361-13131 | Digital Systems | Mandatory GC DD | 3.5 |  | 3 | 1 |  |  | 1 |  |
| 361-13301 | Introduction to Computer Science & Software Engineering | Mandatory GC DD | 3.5 | Digital Systems | 3 | 1 | - | - | 2 |  |
| 374-11021 | Introduction to Structural Mechanics | Mandatory | 4 |  | 3 | 2 | - | - | 1 |  |
| 374-11051 | Strength of Materials 1 to Structural Engineers | Mandatory E.G.T | 4 | Introduction to Structural Mechanics | 3 | 2 | - | - | 2 |  |