

STUDY PROGRAMME CURRICULUM GEOLOGY

2025/2026

| | |
|---------------------------------|--|
| Name of study programme | Geology |
| Programme characteristics | |
| Type | master's |
| Cycle | master |
| University of Ljubljana members | • Faculty of Natural Sciences and Engineering, Aškerčeva cesta 12, 1000 Ljubljana, Slovenija |

Year 1, winter semester

| | University Course Code | Course title | Lecturers | Contact hours | | | | | Individual student work | Total hours | ECTS | Semesters | Elective |
|-------|------------------------|------------------------------|----------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | | | | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | | | | | |
| 1. | 0067733 | Sedimentary Environments | prof. dr. Andrej Šmuc | 60 | 30 | 30 | 0 | 30 | 150 | 300 | 10 | 1st semester | no |
| 2. | 0596432 | Geophysical Research Methods | prof. dr. Andrej Gosar | 30 | 0 | 15 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 3. | 0615368 | Hydrology for Geologists | prof. dr. Mihael Brenčič | 30 | 0 | 15 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 4. | 0596429 | Isotope Geochemistry | prof. dr. Matej Dolenc | 20 | 25 | 0 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 5. | 0597241 | Rock Mechanics | prof. dr. Timotej Verbovšek | 25 | 0 | 20 | 0 | 15 | 60 | 120 | 4 | 1st semester | no |
| 6. | 0596431 | Environmental Mineralogy | izr. prof. dr. Nastja Rogan Šmuc | 25 | 20 | 0 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 7. | 0596430 | Statistics in Geology 2 | prof. dr. Nina Zupančič | 20 | 40 | 0 | 0 | 0 | 60 | 120 | 4 | 1st semester | no |
| Total | | | | 210 | 115 | 80 | 0 | 45 | 450 | 900 | 30 | | |

Year 1, Year 2, Elective Geology Course

The student selects an elective geology course from the set of compulsory or elective courses of the other two modules.

Year 1, Year 2, Elective Courses

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|-------------------|---------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0597248 | Geology in School | izr. prof. dr. Petra Žvab Rožič | 30 | 15 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| Total | | | | 30 | 15 | 30 | 0 | 0 | 75 | 150 | 5 | | |

The student may choose a free elective course outside the module, or from other master's programs, or from the selection of undergraduate courses at the NTF, University of Ljubljana, or other Universities.

Applied Geology (module)

Year 1, summer semester

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|--|------------------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0562384 | Applied Engineering Geology | prof. dr. Timotej Verbovšek | 30 | 0 | 30 | 0 | 15 | 75 | 150 | 5 | 2nd semester | no |
| 2. | 0562385 | Groundwater Flow Dynamics | Mihael Brenčič | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 3. | 0562386 | Computer Methods in Geology | prof. dr. Timotej Verbovšek | 30 | 0 | 45 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 4. | 0562403 | Protection and Management of Groundwater Resources | izr. prof. dr. Barbara Čenčur Curk | 30 | 20 | 10 | 0 | 15 | 75 | 150 | 5 | 2nd semester | no |
| 5. | 0111902 | Module elective | | 35 | 0 | 40 | 0 | 0 | 75 | 150 | 5 | 2nd semester | yes |
| 6. | 0111903 | Geology elective | | 30 | 0 | 45 | 0 | 0 | 75 | 150 | 5 | 2nd semester | yes |
| Total | | | | 200 | 20 | 200 | 0 | 30 | 450 | 900 | 30 | | |

Year 2, winter semester

| | | | | Contact hours | | | | | | | | | |
|------------------------|--|-----------------------------|----------|---------------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|--|
| University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective | |
| 1. 0562391 | Karst Geology 2 | prof. dr. Timotej Verbovšek | 30 | 30 | 0 | 0 | 15 | 75 | 150 | 5 | 1st semester | no | |
| 2. 0562399 | Hydrogeochemistry | prof. dr. Timotej Verbovšek | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | no | |
| 3. 0562400 | Contaminant Hydrogeology | Mihael Brenčič | 30 | 15 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | no | |
| 4. 0562390 | Hydrogeological Methodology | Mihael Brenčič | 30 | 0 | 30 | 0 | 15 | 75 | 150 | 5 | 1st semester | no | |
| 5. 0562392 | Environmental and Engineering Geophysics | prof. dr. Andrej Gosar | 30 | 30 | 0 | 0 | 15 | 75 | 150 | 5 | 1st semester | no | |
| 6. 0562394 | Free elective | | 40 | 0 | 35 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes | |
| Total | | | 205 | 75 | 125 | 0 | 45 | 450 | 900 | 30 | | | |

Year 2, summer semester

| | | | | Contact hours | | | | | | | | | |
|------------------------|-------------------------|-----------|----------|---------------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|--|
| University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective | |
| 1. 0067740 | Masters Diploma | | 0 | 0 | 0 | 0 | 225 | 225 | 450 | 15 | 2nd semester | no | |
| 2. 0644202 | Master's Practical Work | | 0 | 90 | 0 | 0 | 135 | 225 | 450 | 15 | 2nd semester | no | |
| Total | | | 0 | 90 | 0 | 0 | 360 | 450 | 900 | 30 | | | |

Year 1, Year 2, Elective courses (Applied Geology module)

| | | | | Contact hours | | | | | | | | | |
|------------------------|--------------|-----------|----------|---------------|-----------|--------------------|-------------|-------------------------|-------------|------|-----------|----------|--|
| University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms | Individual student work | Total hours | ECTS | Semesters | Elective | |

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|-------|---------|---|--|-----|-----|----|---|-------------|-----|------|----|-------------------------------|-----|
| | | | | | | | | of study | | | | | |
| 1. | 0562396 | Geohazard and Protection from Natural Disasters | izr. prof. dr. Barbara Čenčur Curk | 30 | 30 | 15 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 2. | 0562376 | Geomodeling | prof. dr. Marko Vrabec | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 3. | 0596402 | Geomorfometry | prof. dr. Timotej Verbovšek | 20 | 25 | 0 | 0 | 0 | 45 | 90 | 3 | 1st semester | yes |
| 4. | 0562398 | Global Geophysics | prof. dr. Andrej Gosar | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 5. | 0640172 | Engineering Geological Practicum | Karmen Fifer Bizjak, prof. dr. Timotej Verbovšek | | 15 | 30 | | 30 | 75 | 150 | 5 | 2nd semester | yes |
| 6. | 0615345 | Groundwater Flow Modeling | prof. dr. Mihael Brenčič | 15 | 5 | 25 | 0 | 0 | 45 | 90 | 3 | 1st semester, 2nd semester | yes |
| 7. | 0596407 | Individual Field Work Project | prof. dr. Marko Vrabec | 0 | 15 | 0 | 0 | 75 | 90 | 180 | 6 | 2nd semester | yes |
| 8. | 0615347 | Termogeology | Nina Rman, prof. dr. Mihael Brenčič | 15 | 5 | 17 | 0 | 8 | 45 | 90 | 3 | 1st semester, 2nd semester | yes |
| Total | | | | 170 | 155 | 87 | 0 | 113 | 525 | 1050 | 35 | | |

Geoenvironment and Geomaterials (module)

Year 1, summer semester

| | University Course Code | Course title | Lecturers | Contact hours | | | | | Individual student work | Total hours | ECTS | Semesters | Elective |
|----|------------------------|-----------------|------------------------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | | | | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | | | | | |
| 1. | 0562418 | Clay Mineralogy | prof. dr. Matej Dolenc | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |

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|----|---------|---|---|-----|-----|----|---|---|-----|-----|----|--------------|-----|
| 2. | 0562419 | Petrogenesis of Igneous and Metamorphic Rocks | izr. prof. dr. Mirijam Vrabec, prof. dr. Matej Dolenc | 30 | 45 | 0 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 3. | 0562411 | Ore petrology | prof. dr. Matej Dolenc | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 4. | 0067847 | Technical Mineralogy | izr. prof. dr. Mirijam Vrabec, Sabina Kramar | 30 | 45 | 0 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 5. | 0067851 | Applied Geochemistry | izr. prof. dr. Nastja Rogan Šmuc | 30 | 45 | 0 | 0 | 0 | 75 | 150 | 5 | 2nd semester | no |
| 6. | 0111902 | Module elective | | 35 | 0 | 40 | 0 | 0 | 75 | 150 | 5 | 2nd semester | yes |
| | | Total | | 215 | 165 | 70 | 0 | 0 | 450 | 900 | 30 | | |

Year 2, winter semester

| | | | | Contact hours | | | | | | | | | |
|----|------------------------|------------------------------------|---|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0562405 | Economic Geology | izr. prof. dr. Nastja Rogan Šmuc | 30 | 10 | 20 | 0 | 0 | 60 | 120 | 4 | 1st semester | no |
| 2. | 0597227 | Instrumental Methods of Analysis 2 | izr. prof. dr. Mirijam Vrabec | 20 | 10 | 15 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 3. | 0596418 | Introduction to Ceramic Materials | izr. prof. dr. Mirijam Vrabec, Sašo Šturm | 25 | 20 | 0 | 0 | 0 | 45 | 90 | 3 | 1st semester | no |
| 4. | 0111909 | Module elective | | 35 | 0 | 40 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 5. | 0564729 | Geology elective | | 30 | 0 | 45 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 6. | 0111906 | Free elective | | 75 | 0 | 75 | 0 | 0 | 150 | 300 | 10 | 1st semester | yes |
| | | Total | | 215 | 40 | 195 | 0 | 0 | 450 | 900 | 30 | | |

Year 2, summer semester

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|-------------------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0067740 | Masters Diploma | | 0 | 0 | 0 | 0 | 225 | 225 | 450 | 15 | 2nd semester | no |
| 2. | 0644202 | Master's Practical Work | | 0 | 90 | 0 | 0 | 135 | 225 | 450 | 15 | 2nd semester | no |
| Total | | | | 0 | 90 | 0 | 0 | 360 | 450 | 900 | 30 | | |

Year 1, Year 2, Eective courses (Geoenvironment and Geomaterials module)

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|---------------------------------------|--|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0562417 | Ore Microscopy | prof. dr. Matej Dolenc | 30 | 0 | 45 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 2. | 0562421 | X-Ray Diffraction Crystallography | prof. dr. Matej Dolenc | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 3. | 0562422 | Advanced Mineralogy | izr. prof. dr. Mirijam Vrabc, Sašo Šturm | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 4. | 0562382 | Application of Geology in Archaeology | doc. dr. Simona Jarc | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| Total | | | | 165 | 60 | 75 | 0 | 0 | 300 | 600 | 20 | | |

Regional Geology and Paleontology (module)

Year 1, summer semester

| | | | | Contact hours | | | | | | | | | |
|--|------------------------|--------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|-----------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |

| | | | | | | | | | | | | | |
|-------|---------|-------------------------------|-------------------------|-----|----|-----|---|-----|-----|-----|----|--------------|-----|
| 1. | 0596364 | Digital Mapping | prof. dr. Marko Vrabec | 30 | 0 | 30 | 0 | 15 | 75 | 150 | 5 | 2nd semester | no |
| 2. | 0596365 | Carbonate Microfacies | prof. dr. Boštjan Rožič | 15 | 38 | 30 | 0 | 7 | 90 | 180 | 6 | 2nd semester | no |
| 3. | 0596366 | Individual Field Work Project | prof. dr. Marko Vrabec | 0 | 15 | 0 | 0 | 75 | 90 | 180 | 6 | 2nd semester | no |
| 4. | 0596367 | Stratigraphy 2 | prof. dr. Boštjan Rožič | 20 | 25 | 0 | 0 | 0 | 45 | 90 | 3 | 2nd semester | no |
| 5. | 0067738 | Tectonics | prof. dr. Marko Vrabec | 45 | 15 | 0 | 0 | 15 | 75 | 150 | 5 | 2nd semester | no |
| 6. | 0111902 | Module elective | | 35 | 0 | 40 | 0 | 0 | 75 | 150 | 5 | 2nd semester | yes |
| Total | | | | 145 | 93 | 100 | 0 | 112 | 450 | 900 | 30 | | |

Year 2, winter semester

| | | | | Contact hours | | | | | | | | | |
|------------------------|--------------|------------------------------|---|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| University Course Code | Course title | Lecturers | | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0596370 | Geology of the Alpine orogen | prof. dr. Boštjan Rožič, prof. dr. Marko Vrabec | 30 | 0 | 0 | 0 | 45 | 75 | 150 | 5 | 1st semester | no |
| 2. | 0596371 | Geomorphology 2 | prof. dr. Andrej Šmuc, Tomislav Popit | 15 | 15 | 15 | 0 | 15 | 60 | 120 | 4 | 1st semester | no |
| 3. | 0562363 | Micropaleontology | doc. dr. Luka Gale | 10 | 30 | 0 | 0 | 5 | 45 | 90 | 3 | 1st semester | no |
| 4. | 0562368 | Paleoecology | doc. dr. Luka Gale | 60 | 0 | 0 | 0 | 0 | 60 | 120 | 4 | 1st semester | no |
| 5. | 0597185 | Professional Internship | doc. dr. Luka Gale | 0 | 15 | 0 | 0 | 75 | 90 | 180 | 6 | 1st semester | no |

| | | | | | | | | | | | | | |
|-------|---------|-----------------------------------|--|-----|----|----|---|-----|-----|-----|----|--------------|-----|
| 6. | 0596375 | Karst Sedimentology and Structure | izr. prof. dr. Petra Žvab Rožič, prof. dr. Andrej Šmuc | 10 | 10 | 0 | 0 | 25 | 45 | 90 | 3 | 1st semester | no |
| 7. | 0564731 | Free/Geology elective | | 30 | 0 | 45 | 0 | 0 | 75 | 150 | 5 | 2nd semester | yes |
| Total | | | | 155 | 70 | 60 | 0 | 165 | 450 | 900 | 30 | | |

Year 2, summer semester

| | | | | Contact hours | | | | | | | | | |
|-------|------------------------|-------------------------|-----------|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0067740 | Masters Diploma | | 0 | 0 | 0 | 0 | 225 | 225 | 450 | 15 | 2nd semester | no |
| 2. | 0644202 | Master's Practical Work | | 0 | 90 | 0 | 0 | 135 | 225 | 450 | 15 | 2nd semester | no |
| Total | | | | 0 | 90 | 0 | 0 | 360 | 450 | 900 | 30 | | |

Year 1, Year 2, Elective courses (Regional Geology and Paleontology module)

| | | | | Contact hours | | | | | | | | | |
|----|------------------------|---|---|---------------|---------|-----------|--------------------|----------------------|-------------------------|-------------|------|--------------|----------|
| | University Course Code | Course title | Lecturers | Lectures | Seminar | Tutorials | Clinical tutorials | Other forms of study | Individual student work | Total hours | ECTS | Semesters | Elective |
| 1. | 0562375 | Antropogene and Recent Sedimentary Environments | izr. prof. dr. Nastja Rogan Šmuc, prof. dr. Andrej Šmuc | 30 | 15 | 0 | 0 | 30 | 75 | 150 | 5 | 1st semester | yes |
| 2. | 0562376 | Geomodeling | prof. dr. Marko Vrabc | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 3. | 0562377 | Quantitative Structural Geology | prof. dr. Marko Vrabc | 30 | 45 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |

| | | | | | | | | | | | | | |
|-------|---------|---|-----------------------|-----|-----|----|---|----|-----|-----|----|----------------------------|-----|
| 4. | 0597193 | Applied Paleontology | doc. dr. Luka Gale | 10 | 25 | 0 | 0 | 10 | 45 | 90 | 3 | 1st semester, 2nd semester | yes |
| 5. | 0562380 | Sedimentology of Carbonates and Clastic Sedimentary Rocks | prof. dr. Andrej Šmuc | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 6. | 0562382 | Application of Geology in Archaeology | doc. dr. Simona Jarc | 45 | 0 | 30 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| 7. | 0562383 | Evolution | doc. dr. Luka Gale | 45 | 30 | 0 | 0 | 0 | 75 | 150 | 5 | 1st semester | yes |
| Total | | | | 250 | 145 | 60 | 0 | 40 | 495 | 990 | 33 | | |