

# Bachelor of Science with a Major in Environmental Geosciences

## Selected Educational Outcomes

The program leading to the B. S. degree with a major in environmental geosciences is designed to prepare students to enter graduate programs in geography, planning, and related fields; or to embark upon careers in commerce, industry, government, or education. The specific educational objectives include the following:

1. To provide a working knowledge of the basic research tools in physical and cultural geography, environmental research, and digital cartography;
2. To provide the knowledge required to evaluate and interpret environmental data, address and analyze regional environmental questions, and synthesize and recommend solutions to a range of environmental problems;
3. To provide the analytical and technical skills necessary for geographical research including spatial and temporal analysis, digital and conventional mapping, and analysis and interpretation of data;
4. To provide a range of computer-based spatial analysis skills using Geographic Information Science (GIS) and other techniques for digital mapping, data manipulation and analysis, and applications issues.

## Examples of Outcome Assessments

Assessment of the education outcomes for the environmental geosciences major is primarily the responsibility of the departmental Geography Area Committee, comprised of faculty with expertise in geography and cognate disciplines. The Committee assesses the extent to which the program requirements create the desired outcomes by using a variety of techniques. Examples of these assessments include the following:

1. All student majors must make oral presentations of their research results to the departmental faculty and submit written copies of their research papers to the departmental office as part of the required Senior Thesis sequence (GEOG 4860/GEOL 4860 and GEOG 4861/GEOL 4861).
2. Students must submit a departmental copy of their portfolios of undergraduate coursework, research projects, and professional activity at the end of their last semester of residence.
3. At the time of major coursework completion, students must complete an exit questionnaire to determine the students' perception of achievement of the major's educational outcomes.
4. Periodic surveys of alumni who have completed the environmental geosciences program will be conducted. These surveys will evaluate the relevancy of the major program to graduates' present employment, their perception of success, and their personal satisfaction with the program. The surveys will also solicit suggestions for improvement of the environmental geosciences major program.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences—Geography Track

| Code                                                                                                                                                                                                                                                                                                                                            | Title                                                                                                                                                                                                                                                                                                                                                                                                                                        | Hours     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Core Curriculum</b>                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) <sup>1</sup>                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                              | 42        |
| Environmental Geosciences majors are required to take MATH 1113 in and MATH 2261 in Area D2. Geography Track majors are advised to take 3 hours of a Foreign Language in Area C. They are advised to take BIOL 1107/BIOL 1107L and CHEM 1211/CHEM 1211L in Area D2 and advised to take GEOG 1100 in Area E.                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |
| Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Area D2. Geography Track majors are advised to take 3 hours of a Foreign Language in Area C. They are advised to take BIOL 1107/BIOL 1107L and CHEM 1211/CHEM 1211L in Area D2 and advised to take GEOG 1100 in Area E. |                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |
| GEOG 1112K                                                                                                                                                                                                                                                                                                                                      | Introduction to Weather and Climate (Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Area D2. Geography Track majors are advised to take 3 hours of a Foreign Language in Area C. They are advised to take BIOL 1107/BIOL 1107L and CHEM 1211/CHEM 1211L in Area D2 and advised to take GEOG 1100 in Area E. )                                                       | 4         |
| GEOG 1113K                                                                                                                                                                                                                                                                                                                                      | (Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Technology, Mathematics, and Sciences. Geography Track majors are advised to take 3 hours of a Foreign Language in Arts, Humanities, and Ethics. They are advised to take BIOL 1107/BIOL 1107L and CHEM 1211/CHEM 1211L in Technology, Mathematics, and Sciences and advised to take GEOG 1100 in Social Sciences.) |           |
| GEOG 2010                                                                                                                                                                                                                                                                                                                                       | Tools of Environmental Geoscience                                                                                                                                                                                                                                                                                                                                                                                                            |           |
| BIOL 1107 & 1107L                                                                                                                                                                                                                                                                                                                               | Principles of Biology I and Principles of Biology Laboratory I                                                                                                                                                                                                                                                                                                                                                                               |           |

|                                                                                   |                                                                                                                            |            |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------|
| CHEM 1211 & 1211L                                                                 | Principles of Chemistry I and Principles of Chemistry Laboratory I (if not taken in Technology, Mathematics, and Sciences) |            |
| MATH 2261                                                                         | Analytic Geometry and Calculus I (1 hour left over from Technology, Mathematics, and Sciences)                             |            |
| MATH 1401                                                                         | Elementary Statistics                                                                                                      |            |
| PHSC 1100                                                                         | The Universe of Energy                                                                                                     |            |
| <b>Senior College Curriculum- Geography Track</b>                                 |                                                                                                                            | <b>60</b>  |
| Required upper-level geography courses                                            |                                                                                                                            |            |
| GEOG 3050                                                                         | Computer Cartography and Image Analysis                                                                                    | 3          |
| GEOG 3052                                                                         | Advanced Geographic Information Systems                                                                                    | 3          |
| GEOG 3210                                                                         | Introduction to Hydrology                                                                                                  | 4          |
| GEOG 3300                                                                         | Process Geomorphology                                                                                                      | 4          |
| GEOG 3410                                                                         | Cultural Geography                                                                                                         | 3          |
| GEOG 4710                                                                         | Statistics for Geoscientists                                                                                               | 3          |
| GEOG 4860                                                                         | Geosciences Senior Seminar                                                                                                 | 1          |
| GEOG 4861                                                                         | Senior Thesis                                                                                                              | 3          |
| GEOG 4862                                                                         | Thesis Presentation                                                                                                        | 2          |
| Upper-level electives                                                             |                                                                                                                            | 6          |
| Additional Geosciences Electives above 3000                                       |                                                                                                                            | 7          |
| Other Supporting Courses                                                          |                                                                                                                            |            |
| GEOG 2011                                                                         | Introduction to Geographic Information Science                                                                             | 3          |
| GEOL 1121K                                                                        | Principles of Physical Geology (if not taken in Technology, Mathematics, and Sciences)                                     | 0-4        |
| Modern Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)    |                                                                                                                            | 3-6        |
| Other Guided Electives (includes hours which carry over from Core Field of Study) |                                                                                                                            | 8-15       |
| <b>Total hours required for the degree</b>                                        |                                                                                                                            | <b>120</b> |

<sup>1</sup> All core classes with prefixes GEOG must be completed with a grade of "C" or better.

<sup>2</sup> Hours in excess of 18 will carry over to the senior curriculum.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences—Geology Track

| Code                                                                                                                                                                                                                                                                                                                                                                                                                                     | Title                                                                                                                        | Hours     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Core Curriculum</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                              | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) <sup>1</sup>                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                              |           |
| Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Area D2. Geology Track majors are advised to take 3 hours of a Foreign Language in Area C. They are advised to take CHEM 1211/CHEM 1211L and CHEM 1212/CHEM 1212L in Area D2 and advised to take GEOG 1100 in Area E.                                                                                            |                                                                                                                              |           |
| Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Technology, Mathematics, and Sciences. Geology Track majors are advised to take 3 hours of a Foreign Language in Arts, Humanities, and Ethics. They are advised to take CHEM 1211/CHEM 1211L and CHEM 1212/CHEM 1212L in Technology, Mathematics, and Sciences and advised to take GEOG 1100 in Social Sciences. |                                                                                                                              |           |
| GEOL 1122K                                                                                                                                                                                                                                                                                                                                                                                                                               | Principles of Historical Geology                                                                                             |           |
| GEOG 2010                                                                                                                                                                                                                                                                                                                                                                                                                                | Tools of Environmental Geoscience                                                                                            |           |
| CHEM 1211 & 1211L                                                                                                                                                                                                                                                                                                                                                                                                                        | Principles of Chemistry I and Principles of Chemistry Laboratory I (if not taken in Technology, Mathematics, and Sciences)   |           |
| CHEM 1212 & 1212L                                                                                                                                                                                                                                                                                                                                                                                                                        | Principles of Chemistry II and Principles of Chemistry Laboratory II (if not taken in Technology, Mathematics, and Sciences) |           |
| MATH 2261                                                                                                                                                                                                                                                                                                                                                                                                                                | Analytic Geometry and Calculus I (1 hour left over from Technology, Mathematics, and Sciences)                               |           |
| MATH 1401                                                                                                                                                                                                                                                                                                                                                                                                                                | Elementary Statistics                                                                                                        |           |
| PHYS 1111K                                                                                                                                                                                                                                                                                                                                                                                                                               | Introductory Physics I (the 4th hour will count in Other Supporting Courses in the Senior Curriculum)                        |           |
| <b>Senior College Curriculum—Geology Track</b>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                              | <b>60</b> |
| Required Departmental Courses                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                              |           |
| GEOL 3101                                                                                                                                                                                                                                                                                                                                                                                                                                | Mineralogy                                                                                                                   | 3         |

|                                                                                        |                                                         |            |
|----------------------------------------------------------------------------------------|---------------------------------------------------------|------------|
| GEOL 3102                                                                              | Petrology                                               | 3          |
| GEOL 3200                                                                              | History of Life                                         | 3          |
| GEOL 3410                                                                              | Structural Geology                                      | 4          |
| GEOL 3500                                                                              | Principles of Geochemistry                              | 3          |
| GEOL 4110                                                                              | Principles of Sedimentation and Stratigraphy            | 4          |
| GEOL 4860                                                                              | Geosciences Senior Seminar                              | 1          |
| GEOL 4861                                                                              | Senior Thesis                                           | 3          |
| GEOL 4862                                                                              | Thesis Presentation                                     | 2          |
| Upper-level Electives in a Single Discipline outside of GEOL                           |                                                         | 6          |
| Additional Geoscience Electives above 3000                                             |                                                         | 7          |
| Other Supporting Courses                                                               |                                                         |            |
| GEOG 1113K                                                                             | (if not taken in Technology, Mathematics, and Sciences) | 0-4        |
| GEOG 2011                                                                              | Introduction to Geographic Information Science          | 3          |
| Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)                |                                                         | 3-6        |
| Other Guided Electives (includes hours which carry over from core Field of Study area) |                                                         | 9-12       |
| <b>Total hours required for the degree</b>                                             |                                                         | <b>120</b> |

<sup>3</sup> All core classes with prefixes GEOG and GEOL must be completed with a grade of "C" or better.

<sup>4</sup> Hours in excess of 18 will carry over to the senior curriculum.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences—Environmental Sustainability Track

| Code                                                                                                                                                                                                                                                                                                                                                                                                                            | Title                                                                                                                      | Hours     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>Core Curriculum</b>                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                            | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum)                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                            | 42        |
| Environmental Geosciences majors are required to take MATH 1113 in Mathematics and Quantitative Skills and MATH 2261 in Tehcnology, Mathematics, and Sciences. Environmental Geosciences majors are advised to take 3 hours of a Foreign Language in Arts, Humanities, and Ethics. They are advised to take BIOL 1107K and CHEM 1211 in Technology, Mathematics, and Sciences and advised to take GEOG 1100 in Social Sciences. |                                                                                                                            |           |
| Core Field of Study <sup>1, 2</sup>                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                            |           |
| GEOG 1112K                                                                                                                                                                                                                                                                                                                                                                                                                      | Introduction to Weather and Climate                                                                                        | 4         |
| GEOG 1113K                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                            | 4         |
| GEOG 2010                                                                                                                                                                                                                                                                                                                                                                                                                       | Tools of Environmental Geoscience                                                                                          | 3         |
| BIOL 1107 & 1107L                                                                                                                                                                                                                                                                                                                                                                                                               | Principles of Biology I and Principles of Biology Laboratory I (if not taken in Technology, Mathematics, and Sciences)     | 3         |
| CHEM 1211 & 1211L                                                                                                                                                                                                                                                                                                                                                                                                               | Principles of Chemistry I and Principles of Chemistry Laboratory I (if not taken in Technology, Mathematics, and Sciences) | 3         |
| ECON 1500                                                                                                                                                                                                                                                                                                                                                                                                                       | (if not taken in Social Sciences)                                                                                          | 3         |
| MATH 1401                                                                                                                                                                                                                                                                                                                                                                                                                       | Elementary Statistics                                                                                                      | 3         |
| MATH 2261                                                                                                                                                                                                                                                                                                                                                                                                                       | Analytic Geometry and Calculus I (1 hour left over from Technology, Mathematics, and Sciences)                             | 4         |
| <b>Senior College Curriculum--Environmental Sustainability Track</b>                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                            | <b>60</b> |
| Required Upper-Level Courses                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                            | 27        |
| GEOG 3020                                                                                                                                                                                                                                                                                                                                                                                                                       | Global Climate Change                                                                                                      | 3         |
| GEOL 3010                                                                                                                                                                                                                                                                                                                                                                                                                       | Environmental Geology                                                                                                      | 3         |
| GEOG 3100                                                                                                                                                                                                                                                                                                                                                                                                                       | Regional Planning and Environmental Management                                                                             | 3         |
| GEOG 3510                                                                                                                                                                                                                                                                                                                                                                                                                       | Urban Community Planning                                                                                                   | 3         |
| GEOG 3052                                                                                                                                                                                                                                                                                                                                                                                                                       | Advanced Geographic Information Systems                                                                                    | 3         |
| GEOG 4900                                                                                                                                                                                                                                                                                                                                                                                                                       | Special Topics in Geography (Human Environmental Impact Analysis)                                                          | 3         |
| GEOG 4900                                                                                                                                                                                                                                                                                                                                                                                                                       | Special Topics in Geography (Natural Resource Sustainability and Conservation)                                             | 3         |
| GEOG 4860                                                                                                                                                                                                                                                                                                                                                                                                                       | Geosciences Senior Seminar                                                                                                 | 1         |
| GEOG 4861                                                                                                                                                                                                                                                                                                                                                                                                                       | Senior Thesis                                                                                                              | 3         |
| GEOG 4862                                                                                                                                                                                                                                                                                                                                                                                                                       | Thesis Presentation                                                                                                        | 2         |
| Upper Level Electives                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                            | 12        |

Must complete at least one class from each category:

Environmental Analysis

|           |                                                      |
|-----------|------------------------------------------------------|
| GEOG 3050 | Computer Cartography and Image Analysis              |
| GEOG 3053 | Application Issues in Geographic Information Systems |
| GEOG 4710 | Statistics for Geoscientists                         |

Earth's Natural Systems

|           |                                                            |
|-----------|------------------------------------------------------------|
| BIOL 3810 | Introduction to Biogeography                               |
| CHEM 3320 | Environmental Chemistry                                    |
| GEOG 3150 | Meteorology and Climatology                                |
| GEOG 3210 | Introduction to Hydrology                                  |
| GEOG 3710 | Environmental Soil Science                                 |
| GEOG 3330 | Geology, Hydrogeology, and Environmental Issues in Georgia |

Human Systems

|           |                                                                    |
|-----------|--------------------------------------------------------------------|
| ECON 3800 | Environmental Economics                                            |
| GEOG 3410 | Cultural Geography                                                 |
| PHIL 3640 | Environmental Philosophy                                           |
| PHIL 3180 | Ethics and the Environment                                         |
| POLS 4450 | Comparative Environmental Politics and Policy                      |
| POLS 4820 | Special Topics in U.S. Government and Politics (Environmental Law) |

|                                                                                   |                                                |            |
|-----------------------------------------------------------------------------------|------------------------------------------------|------------|
| Other Supporting Courses                                                          |                                                | 21         |
| GEOL 1121K                                                                        | Principles of Physical Geology                 | 4          |
| GEOG 1125                                                                         | Resources, Society, and Environment            | 3          |
| GEOG 2011                                                                         | Introduction to Geographic Information Science | 3          |
| Modern Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)    |                                                | 3-6        |
| Other Guided Electives (includes hours which carry over from Core Field of Study) |                                                | 8-15       |
| <b>Total hours required for the degree</b>                                        |                                                | <b>120</b> |

<sup>1</sup> All core classes with prefixes GEOG or GEOL must be completed with a grade of "C" or better.

<sup>2</sup> Hours in excess of 18 will carry over to the senior curriculum.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences— Geospatial Technology and Urban Planning Track

| Code                                   | Title                                                                 | Hours     |
|----------------------------------------|-----------------------------------------------------------------------|-----------|
| <b>Core Curriculum <sup>1</sup></b>    |                                                                       | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) |                                                                       | 42        |
| Core Field of Study <sup>2</sup>       |                                                                       |           |
| GEOG 1112K                             | Introduction to Weather and Climate                                   | 4         |
| GEOG 1113K<br>& GEOG 1113L             | and Introduction to Landforms Lab                                     | 4         |
| GEOG 2010                              | Tools of Environmental Geoscience                                     | 3         |
| BIOL 1107<br>& 1107L                   | Principles of Biology I<br>and Principles of Biology Laboratory I     | 3         |
| CHEM 1211<br>& 1211L                   | Principles of Chemistry I<br>and Principles of Chemistry Laboratory I | 3         |
| PHSC 1100                              | The Universe of Energy                                                | 3         |
| MATH 1401                              | Elementary Statistics                                                 | 3         |
| MATH 2261                              | Analytic Geometry and Calculus I                                      | 4         |
| <b>Senior College Curriculum</b>       |                                                                       | <b>60</b> |
| GEOG 3050                              | Computer Cartography and Image Analysis                               | 3         |
| GEOG 3052                              | Advanced Geographic Information Systems                               | 3         |
| GEOG 3100                              | Regional Planning and Environmental Management                        | 3         |
| GEOG 4860                              | Geosciences Senior Seminar                                            | 1         |

|                                                                                   |                                                      |            |
|-----------------------------------------------------------------------------------|------------------------------------------------------|------------|
| GEOG 4861                                                                         | Senior Thesis                                        | 3          |
| GEOG 4862                                                                         | Thesis Presentation                                  | 2          |
| Choose two of the following:                                                      |                                                      | 6          |
| GEOG 3053                                                                         | Application Issues in Geographic Information Systems |            |
| GEOG 3510                                                                         | Urban Community Planning                             |            |
| GEOG 4900                                                                         | Special Topics in Geography                          |            |
| Upper-level electives                                                             |                                                      | 6          |
| Additional Geoscience electives above 3000                                        |                                                      | 12         |
| Other Supporting Courses                                                          |                                                      | 21         |
| GEOG 1125                                                                         | Resources, Society, and Environment                  |            |
| GEOG 2011                                                                         | Introduction to Geographic Information Science       |            |
| Modern Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)    |                                                      | 3-6        |
| Other Guided Electives (includes hours which carry over from Core Field of Study) |                                                      | 9-12       |
| <b>Total hours required for the degree</b>                                        |                                                      | <b>120</b> |

<sup>1</sup> All core classes with prefixes GEOG or GEOL must be completed with a grade of C or better.

<sup>2</sup> Hours in excess of 18 will carry over to the senior curriculum.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences— Natural Hazards Management Track

| Code                                                | Title                                                                 | Hours     |
|-----------------------------------------------------|-----------------------------------------------------------------------|-----------|
| <b>Core Curriculum</b>                              |                                                                       | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) <sup>1</sup> |                                                                       | 42        |
| Core Field of Study <sup>2</sup>                    |                                                                       | 18        |
| GEOG 1112K                                          | Introduction to Weather and Climate                                   | 4         |
| GEOG 1113<br>& 1113L                                | Introduction to Landforms<br>and Introduction to Landforms Lab        | 4         |
| GEOG 2010                                           | Tools of Environmental Geoscience                                     | 3         |
| BIOL 1107<br>& 1107L                                | Principles of Biology I<br>and Principles of Biology Laboratory I     | 4         |
| CHEM 1211<br>& 1211L                                | Principles of Chemistry I<br>and Principles of Chemistry Laboratory I | 3         |
| PHSC 1100                                           | The Universe of Energy                                                | 3         |
| MATH 1401                                           | Elementary Statistics                                                 | 3         |
| MATH 2261                                           | Analytic Geometry and Calculus I                                      | 4         |
| <b>Senior College Curriculum</b>                    |                                                                       | <b>60</b> |
| Required upper-level courses                        |                                                                       | 25        |
| GEOG 3020                                           | Global Climate Change                                                 | 3         |
| GEOG 3052                                           | Advanced Geographic Information Systems                               | 3         |
| GEOG 3210                                           | Introduction to Hydrology                                             | 4         |
| GEOG 4900                                           | Special Topics in Geography                                           | 1-6       |
| GEOG 4860                                           | Geosciences Senior Seminar                                            | 1         |
| GEOG 4861                                           | Senior Thesis                                                         | 3         |
| GEOG 4862                                           | Thesis Presentation                                                   | 2         |
| Choose one of the following                         |                                                                       | 3         |
| GEOG 3100                                           | Regional Planning and Environmental Management                        |           |
| GEOG 3510                                           | Urban Community Planning                                              |           |
| Upper-level electives                               |                                                                       | 6         |
| Additional Geoscience electives above 3000          |                                                                       | 8         |
| Other Supporting Courses                            |                                                                       | 21        |
| GEOG 1110                                           | Our Hazardous Environment                                             |           |
| GEOG 2011                                           | Introduction to Geographic Information Science                        |           |

|                                                                                   |                                |
|-----------------------------------------------------------------------------------|--------------------------------|
| Modern Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)    | 3-6                            |
| Other Guided Electives (includes hours which carry over from Core Field of Study) | 5-8                            |
| Total hour required for the degree                                                | 120                            |
| GEOL 1121K                                                                        | Principles of Physical Geology |

<sup>1</sup> All core classes with prefixes GEOG or GEOL must be completed with a grade of C or better.

<sup>2</sup> Hours in excess of 18 will carry over to the senior curriculum.

## Requirements for the Bachelor of Science Degree with a Major in Environmental Geosciences— Environmental and Climate Sciences Track

| Code                                                                              | Title                                                              | Hours     |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------|
| <b>Core Curriculum</b>                                                            |                                                                    | <b>60</b> |
| Core IMPACTS (See VSU Core Curriculum) <sup>1</sup>                               |                                                                    | 42        |
| Core Field of Study <sup>2</sup>                                                  |                                                                    | 18        |
| GEOG 1112K                                                                        | Introduction to Weather and Climate                                | 4         |
| GEOG 1113 & 1113L                                                                 | Introduction to Landforms and Introduction to Landforms Lab        | 4         |
| GEOG 2010                                                                         | Tools of Environmental Geoscience                                  | 3         |
| BIOL 1107 & 1107L                                                                 | Principles of Biology I and Principles of Biology Laboratory I     | 3         |
| CHEM 1211 & 1211L                                                                 | Principles of Chemistry I and Principles of Chemistry Laboratory I | 3         |
| PHSC 1100                                                                         | The Universe of Energy                                             | 3         |
| MATH 1401                                                                         | Elementary Statistics                                              | 3         |
| MATH 2261                                                                         | Analytic Geometry and Calculus I                                   | 4         |
| <b>Senior College Curriculum</b>                                                  |                                                                    | <b>60</b> |
| Required upper-level courses                                                      |                                                                    | 25        |
| GEOG 3020                                                                         | Global Climate Change                                              | 3         |
| GEOG 3050                                                                         | Computer Cartography and Image Analysis                            | 3         |
| GEOG 3210                                                                         | Introduction to Hydrology                                          | 4         |
| GEOG 4900                                                                         | Special Topics in Geography                                        | 1-6       |
| GEOG 4860                                                                         | Geosciences Senior Seminar                                         | 1         |
| GEOG 4861                                                                         | Senior Thesis                                                      | 3         |
| GEOG 4862                                                                         | Thesis Presentation                                                | 2         |
| Upper-level electives                                                             |                                                                    | 6         |
| Additional Geoscience electives above 3000                                        |                                                                    | 8         |
| Other Supporting Courses                                                          |                                                                    | 21        |
| GEOG 1120                                                                         | Introductory Oceanography                                          | 3         |
| GEOG 2011                                                                         | Introduction to Geographic Information Science                     | 3         |
| Modern Foreign Language (3 hours may be taken in Arts, Humanities, and Ethics)    |                                                                    | 3-6       |
| Other Guided Electives (includes hours which carry over from Core Field of Study) |                                                                    | 9-12      |
| Total hours required for the degree                                               |                                                                    | 120       |

<sup>1</sup> All core classes with prefixes GEOG or GEOL must be completed with a grade of C or better.

<sup>2</sup> Hours in excess of 18 will carry over to the senior curriculum.