

## EARTH SCIENCE TRACK

**Degree:** Only a B.A. degree is offered for this track.

**Perspective:**

This track offers a broad perspective on the different disciplines that comprise the Earth Sciences.

**Intended Audience:**

This track is ideal for K-12 teachers that are enrolled in the dual co-major with Early Childhood, Elementary ([http://www.njcu.edu/sites/default/files/ba\\_early\\_childhood\\_p3k6\\_9-1-16\\_2.pdf](http://www.njcu.edu/sites/default/files/ba_early_childhood_p3k6_9-1-16_2.pdf)), Middle School ([http://www.njcu.edu/sites/default/files/ba\\_elementary\\_ed\\_k-6\\_middle\\_9-1-16\\_0.pdf](http://www.njcu.edu/sites/default/files/ba_elementary_ed_k-6_middle_9-1-16_0.pdf)) or Secondary Education (<http://www.njcu.edu/elementarysecondary-education/secondary-education>) or for students with a general interest in Earth Science without an education major.

**Recommended General Education Courses:**- Students must complete 4 Tier 1 and 6 Tier 2 with at least 2 in each mode of inquiry—The Gen Ed Modes are- Creative Process & Production (CPP); Lang., Lit., and Cultural Studies (LLCS); Scientific and Quantitative Inquiry (SQI); Social and Historical Perspectives (SHP)

**Tier 1**

- \_\_\_ ART 145 Websites for Everyone (3) (Tier 1) (CPP)
- \_\_\_ ECON 115 Money and Markets (3) (Tier 1) (SHP)
- \_\_\_ EESC 121 Mapping the City (3) (Tier 1) (SQI)
- \_\_\_ ENGL 130 Reading the Environment (3) (Tier 1) (LLCS & SHP)
- \_\_\_ PHIL 113 Environmental Ethics (3) (Tier 1) (LLCS)
- \_\_\_ POLI 120 Global Challenges (3) (Tier 1) (SHP)
- \_\_\_ WSGT 110 Diversity and Difference (Tier 1) (SHP) (for education majors)

**Tier 2**

- \_\_\_ ART 286 Infographics for the Sciences (3) (Tier 2) (CPP)
- \_\_\_ BIOL 240 Scientific Communication (3) (Tier 2) (LLCS & SQI)
- \_\_\_ EESC 220 Geographies of Immigration (3) (Tier 2) (SHP)
- \_\_\_ EESC 226 Earth 360 Integrated Geography (3) (Tier 2) (SQI)
- \_\_\_ EESC 231 Water Chronicles (3) Tier 2 (LLCS & SHP)
- \_\_\_ EESC 235 Global Climate Change (3) Tier 2 (LLCS & SHP)
- \_\_\_ EESC 226 Earth 360: Integrated Geography (3) (Tier 2) (SQI)
- \_\_\_ PHIL 246 Food, Philosophy and Global Health (3) (Tier 2) (LLCS & SHP)
- \_\_\_ PHIL 245 Social Justice (3) (Tier 2) (SHP)
- \_\_\_ POLI 217 Globalization and Governance (3) (Tier 2) (SHP)
- \_\_\_ SOCI 230 Cities of Industry (3) (Tier 2) (SHP)
- \_\_\_ SOCI 237 Refugees and Forced Migrations (3) (Tier 2) (SHP)

**Tier 3**

- \_\_\_ EESC 3XX Energy, Society and Sustainability (3) (Tier 3) (*Pending approval*)

## TRACK REQUIREMENTS

**Mathematics (3 or 4 credits):**

- \_\_\_ MATH 225 Math on Global Climate Change (3) (Tier 2) Recommended for Early Childhood & Elementary Education
- OR**
- \_\_\_ MATH 175 Enhanced Pre-Calculus (4) –strongly recommended for Middle / Secondary Ed candidates

**Related Natural Sciences (12 credits):**

- BIOL 225 Human Sexual Biology (3) for Education majors **OR**  BIOL 100 General Biology for non-education majors
- CHEM 100 Prep for Chem (3) *Elem-Mid Ed* **OR**  CHEM 117 Prins of Chemistry (3) *Secondary Ed*
- PHYS 101 Basic Concepts of Physics (3)
- PHYS 113 Intro to Astronomy (3)

**Earth Science Core Curriculum (23 Credits):**

- EESC 109 Principles of Environmental Science (3)
- EESC 112 Introduction to Geology (3)
- EESC 114 Introduction to Meteorology (3)
- EESC 115 Introduction to Oceanography (3)
- EESC 221 Essential Methods in Geology (3)
- EESC 241 Historical Geology (4)
- EESC 246 Earth Materials (4)

**Earth Science Electives (16 credits):** Choose **any 200+ level EESC course\***, At least 2 or more courses have to be at the 300+ level; the following especially recommended. Only 1 GIS course will count toward elective credit, if the student is in the GIS Certificate program.

- EESC 209 Urban Environmental Issues & Policy
- EESC 226 Earth 360 Integrated Geography (3) Tier 2
- EESC 231 Water Chronicles (3) Tier 2
- EESC 235 Global Climate Change (3) Tier 2
- EESC 250 Plunder: The Race for Natural Resources (3) Tier 2
- EESC 252 Applications of GIS (3)
- EESC 334 Sedimentology & Stratigraphy (4)
- EESC 336 Field Methods (4)
- EESC 340 Hydrology (3)
- EESC 348 Environmental Geology (3)
- EESC 350 GIS II (3)
- EESC 434 Earth Surface Processes (4)
- EESC 446 Introduction to Geochemistry (3)
- EESC 447 Introduction to Geophysics (4)
- EESC 455 GIS III (3)

- <sup>T</sup>EESC 211 Geology of the Bahamas (3)
- <sup>T</sup>EESC 503 Field Studies in Geoscience (3)
- <sup>T</sup>EESC 540 Geology of NJ (3)
- <sup>T</sup>EESC 550 Geology of National Parks (4)

<sup>T</sup> Please choose only one course from this group

\*For education majors the State of New Jersey requires **12 Credit Hours of advanced courses (300 or higher)** for [Earth Science Teacher Certification](#)