

**LEHMAN COLLEGE  
OF THE  
CITY UNIVERSITY OF NEW YORK**

**DEPARTMENT OF EARTH, ENVIRONMENTAL AND GEOSPATIAL SCIENCES**

**CURRICULUM CHANGE**

Name of Program and Degree Award: Earth Science, BA  
Hegis Number: 1914.00  
Program Code: 34028

1. **Type of Change**: Change in Degree Requirements
2. **From**: ~~Strikethrough~~ the changes

The Interdisciplinary Program in Earth Science, B.A. is a 38-credit major recommended for earth data users, analysts, programmers and developers.

The core of the interdisciplinary undergraduate program in Earth Science is a sequence of basic and advanced courses from EEGS and Computer Science and Math.

The Interdisciplinary Program in Earth Science offers courses to prepare students: (1) for the use and analysis of the earth (lithosphere, hydrosphere and atmosphere) data; (2) to meet the demands of local, state, and federal governmental agencies, private consulting, and industry in using earth data to solve societal problems, such as climate change, impact of natural hazards, agriculture, water supply and many others; (3) to pursue advanced degrees in earth data science and information technology.

Major Requirements – Overall  
Type: Completion requirement  
Earn at least 38 credits

Major Requirements – Required Courses  
Type: Completion requirement

Fulfill ALL of the following requirements:

Complete ALL of the following Courses:

GEO 170 Earth Science and Society (new)	(3 credits)
GEO 280 Earth Observation Information (new) (PREREQ GEO170)	(3 credits)
GEO 360 Earth Data Models and Analysis (new) (PREREQ GEO170)	(3 credits)
GEP 204 Basic Mapping: Applications and Analysis	(3 credits)
GEP 321 Introduction to Remote Sensing (PREREQ: GEP 204)	(4 credits)

MAT 128 Foundations of Data Science (Python)	(3 credits)
MAT 328 Techniques in Data Science (Python) (PREREQ: MAT 128)	(4 credits)
SOC 348 - Reasoning with Data (R) (PREREQ MAT 128)	(3 credits)

AND

At least 3 credits must be 300-level or above to be chosen from the following:

Earn at least 12 credits from the following:

GEO 101 Dynamic Earth (Lec)	(3 credits)
GEO 102 Dynamic Earth (Lab)	(1 credit)
GEO 228 Weather and Climate (Lec)	(3 credits)
GEO 229 Weather and Climate (Lab)	(1 credits)
GEO 340 Natural Hazards and Disasters (Lec)	(3 credits)
GEO 341 Natural Hazards and Disasters (Lab)	(1 credit)
GEO 345 Environmental Hydrology	(4 credits)
GEO 490 Honors Geology	(4 credits)
GEO 3750 Data Acquisition and Integration Methods for GIS Analysis (PREREQ: GEP 204)	(3 credits)
GEP 205 Principles of Geographic Information Science	(3 credits)
GEP 330 Spatial Statistics and Advanced Quantitative Methods in Geography (PREREQ: GEP 204 or GEP 205)	(3 credits)
GEP 350 - Special Projects in Geographic Information Systems (PREREQ: GEP 205)	(4 credits)
CMP 128 Programming through Web Development	(3 credits)
CMP 167 Programming Methods I (Java) (Corequisite: CMP157)	(3 credits)
AND CMP 157 Programming Methods I Lab	(1 credit)
CMP 168 Programming Methods II (Java) (Corequisite: CMP 158)	(4 credits)
AND CMP 158 Programming Methods II Lab Programming Methods II Lab.	(1 credit)
CMP 338 Data Structures and Algorithms I (PREREQ: CMP 232 and CMP 326 or CMP 168)	(4 credits)
CMP 415 Machine Learning (PREREQ: CMP 158, CMP 168, MAT 313)	(4 credits)
CMP 414 Artificial Intelligence (PREREQ: CMP 338)	(4 credits)
CMP 343 Full Stack Web Development (PREREQ: CMP 158, CMP 168)	(4 credits)
CIS 333 Network Security	(4 credits)

3. To: Underline the changes

The Interdisciplinary Program in Earth Science, B.A. is a 38-credit major recommended for earth data users, analysts, programmers and developers.

The core of the interdisciplinary undergraduate program in Earth Science is a sequence of basic and advanced courses from EEGS and Computer Science and Math.

The Interdisciplinary Program in Earth Science offers courses to prepare students: (1) for the use and analysis of the earth (lithosphere, hydrosphere and atmosphere) data; (2) to meet the demands of local, state, and federal governmental agencies, private consulting, and industry in using earth data to solve societal problems, such as climate change, impact of natural hazards, agriculture, water supply and many others; (3) to pursue advanced degrees in earth data science and information technology.

#### Major Requirements – Overall

Type: Completion requirement

Earn at least 38 credits

#### Major Requirements – Required Courses

Type: Completion requirement

Fulfill ALL of the following requirements:

Complete ALL of the following Courses:

GEO 170 Earth Science and Society (new)	(3 credits)
GEO 280 Earth Observation Information (new)	(3 credits)
(PREREQ GEO170)	
GEO 360 Earth Data Models and Analysis (new)	(3 credits)
(PREREQ GEO170)	
GEP 204 Basic Mapping: Applications and Analysis	(3 credits)
GEP 321 Introduction to Remote Sensing	(4 credits)
(PREREQ: GEP 204)	
MAT 128 Foundations of Data Science (Python)	(3 credits)
MAT 328 Techniques in Data Science (Python)	(4 credits)
(PREREQ: MAT 128)	
SOC 348 - Reasoning with Data (R)	(3 credits)
(PREREQ MAT 128)	

AND

At least 3 credits must be 300-level or above to be chosen from the following:

Earn at least 12 credits from the following:

GEO 101 Dynamic Earth (Lec)	(3 credits)
GEO 102 Dynamic Earth (Lab)	(1 credit)
GEO 228 Weather and Climate (Lec)	(3 credits)
GEO 229 Weather and Climate (Lab)	(1 credits)
GEO 340 Natural Hazards and Disasters (Lec)	(3 credits)
GEO 341 Natural Hazards and Disasters (Lab)	(1 credit)
GEO 345 Environmental Hydrology	(4 credits)
GEO 490 Honors Geology	(4 credits)

GEO 3750 Data Acquisition and Integration Methods for GIS Analysis (PREREQ: GEP 204)	(3 credits)
GEP 205 Principles of Geographic Information Science	(3 credits)
GEP 330 Spatial Statistics and Advanced Quantitative Methods in Geography (PREREQ: GEP 204 or GEP 205)	(3 credits)
GEP 350 - Special Projects in Geographic Information Systems (PREREQ: GEP 205)	(4 credits)
<u>GEP 362 Introduction to Programming for GISc</u>	<u>(3 credits)</u>
CMP 128 Programming through Web Development	(3 credits)
CMP 167 Programming Methods I (Java) (Corequisite: CMP157)	(3 credits)
AND CMP 157 Programming Methods I Lab	(1 credit)
CMP 168 Programming Methods II (Java) (Corequisite: CMP 158)	(4 credits)
AND CMP 158 Programming Methods II Lab Programming Methods II Lab.	(1 credit)
CMP 338 Data Structures and Algorithms I (PREREQ: CMP 232 and CMP 326 or CMP 168)	(4 credits)
CMP 415 Machine Learning (PREREQ: CMP 158, CMP 168, MAT 313)	(4 credits)
CMP 414 Artificial Intelligence (PREREQ: CMP 338)	(4 credits)
CMP 343 Full Stack Web Development (PREREQ: CMP 158, CMP 168)	(4 credits)
CIS 333 Network Security	(4 credits)

4. **Rationale (Explain how this change will impact learning outcomes of the department and Major/Program):**

Inclusion of GEP362 Introduction to Programming for GISc as an elective course to Earth Science, BA program will help students to broaden their choice of elective courses, specifically courses that will enhance their programming skills.

5. **Date of departmental approval:** Feb 11, 2026