

# BA GEOLOGY + MAT ADOLESCENCE ED: EARTH SCIENCE AP

## Program Overview

AP Coordinator	Latanya Brandon, (845) 257-3118, <a href="mailto:brandonl@newpaltz.edu">brandonl@newpaltz.edu</a>
Geology Coordinator	Frederick Vollmer, (845) 257-3760, <a href="mailto:vollmerf@newpaltz.edu">vollmerf@newpaltz.edu</a>
Program ID	BA Geology AP (51ES), MAT Adolescence Ed: Earth Science AP (102E)
Credits	122 UG + 30 GR
Program Length	The Accelerated Pathway program may be completed in 10 semesters, but students must complete the graduate degree within 5 years.
Modality	In-person
Full-time/Part-time	Full-time or Part-time
Transfer Credits	9-12 graduate credits taken while an undergraduate may be transferred into the MAT program.
MAT Capstone	Practicum
Certification/Licensure	NYSED Initial/Professional Adolescent Education: Earth Science

## Program Description

We have developed this program in response to popular demand from students and parents who have called for a pathway to fulfilling jobs in education and science, and to school districts who report an increasing number of full-time job openings in STEM disciplines. Graduation from the Accelerated Pathway (AP) program empowers students with options to choose the career they find most fulfilling, whether that means becoming a science teacher, working as a geologist, or pursuing a Ph.D.

## How does it work?

Get started as an undergraduate by declaring the Geology AP major (51ES):

- **Meet** with AP advisor, [Latanya Brandon](#), to declare the Geology AP major.
- **Work** with your AP advisor to select three or four graduate courses to take during your senior year.
- **Apply** for the MAT Adolescence Ed: Earth Science AP program in your senior year.
- **Transfer** 9-12 credits of graduate courses taken as an undergraduate into your graduate program.

## Graduate Admission Requirements

Graduate admission requires submission of:

- Graduate application - select major 102E.
- Admission essay responding to the following prompt:

- Reflect on a time when your idea or belief was questioned or challenged. Or, conversely, reflect on a time when your idea or belief was validated. What happened? In what way(s) could this time be considered a learning experience?

*As you reflect, please include at least one reference to the [School of Education's Conceptual Framework](#) and discuss how it speaks to your experience.*

- One set of official transcripts for all undergraduate and graduate course work indicating at least a 3.0 cumulative GPA.

## Admission Deadlines

March 1	Fall Admission
October 1	Spring Admission

Accepting on a rolling basis until the program is full. However, applications must at least be started by the deadline or they will not be considered. Applying by the suggested deadlines above ensures an easier registration process. Applicants who are admitted later may find that classes that wish to enroll in are already full.

## Curriculum Requirements

### BA Geology AP (51ES)

Graduate courses taken under advisement during the student's senior year will transfer into the MAT program upon matriculation.

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
Education Seminar		1
ENG160	Composition I	3
CHE201	General Chemistry I	3
CHE211	General Chemistry I Lab	1
MAT251	Calculus I	4
GLG201	Physical Geology	3
GLG211	Physical Geology Laboratory	1
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
ENG180	Composition II	3
CHE202	General Chemistry II	3
CHE212	General Chemistry II Lab	1
GLG202	Historical Geology	4
MAT252	Calculus II	4
SED354	Foundations of Secondary Education Seminar	1
<b>Credits</b>		<b>16</b>
<b>Year 2</b>		
<b>Fall</b>		
PHY201	General Physics 1	3
PHY211	Physics 1 Laboratory	1
GLG311	Mineralogy and Crystallography	4
Elementary Foreign Language I		3
Humanities Course		3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
EDS340	Sociological and Philosophical Foundations of Education	3

EDS372	Developing Adolescence	3
GLG314	Petrology	4
PHY202	General Physics 2	3
PHY212	General Physics 2 Lab	1
Elementary Foreign Language II		3

**Credits** 17

### Year 3

#### Fall

GLG331	Stratigraphy-Sedimentation	4
GLG305	Paleontology	4
PHY205	Exploring the Solar System	3
Arts Course		3

**Credits** 14

#### Spring

BIO201	General Biology I	3
BIO211	Gen Bio 1 Lab	1
PHY205	Exploring the Solar System	3
GLG120	Weather and Environment	4
EDS383	Introduction to Literacy for Diverse Learners	3
Other World Course		3

**Credits** 17

### Year 4

#### Fall

GLG405	Structure and Tectonics	4
GLG435	Field Geology	4
Geology course by advisement		3-4
Western Civilization Course		3

**Credits** 14-15

#### Spring

SED453	Curriculum and Assessment in the Secondary School	3
SED353	Field Work #1	1
SED356	Teaching and Learning in the Digital Environment	3
Integrating ELLs in the School & Classroom		3
Graduate education or geology liberal arts elective by advisement		3

**Credits** 13

**Total Credits** 121-122

### MAT Adolescence Ed: Earth Science AP (102E)

Any graduate course taken as part of the BA Geology AP program will transfer into the MAT plan of study.

Code	Title	Credits
------	-------	---------

#### Summer (3 Credits)

Working with your Advisor, select ONE of the following courses if offered: Discipline-specific education course, an approved diversity elective or a course in the discipline.		3
--	--	---

#### Fall (13 Credits)

SED543	Science in the Secondary School	3
SED552	Field Experience II	1
SPE565	Teaching in Inclusive Classrooms	3

Select TWO of the following courses not taken during summer: 6  
Discipline-specific education course, approved Diversity elective, or a course in discipline

#### Spring (14 Credits)

SED604	Practicum in Secondary Ed 7-9	6
SED605	Practicum in Secondary Ed 10-12	6
SED606	Practicum Seminar	1
SED553	Field Experience III	1

**Total Credits** 30

## Academic Standing Requirements for Bachelor's/Master's Students

A cumulative GPA of less than 3.0 in graduate-level courses taken in the undergraduate portion of an accelerated pathway program precludes the student's good standing. Students with a cumulative GPA between 2.75 to 2.99 are strongly advised to reconsider continuing into the graduate program. Students with a cumulative GPA below 2.75 may not continue and will be de-matriculated from GR program.

## Graduate Program Requirements

- Review graduate "plan of study" during the first semester after matriculation into the MAT portion of the program.
- Maintain a graduate cumulative grade point average of 3.0 or better with no more than two grades below B-.
- Successful completion of practicum during the final semester of study. Students are responsible for their own transportation to the field and student teaching placements and must be prepared to commute up to 45 miles, one way, to these placements.

## Required Workshops for Certification

Attending workshops designed to assist teachers in:

- Preventing violence in the schools (S.A.V.E)
- Recognizing symptoms of child abuse and neglect,
- Providing a safe and supportive learning environment through the training for Dignity for All Students Act (DASA), and
- Completing the Health & Safety training.

## Graduation Checklist

- Apply for graduation via [my.newpaltz.edu](http://my.newpaltz.edu) under "Graduation" tab according to the schedule in the [academic calendar](#).
- Resolve any pending admission conditions (outlined in your acceptance letter) and/or missing documents if applicable.
- Review your progress report via [my.newpaltz.edu](http://my.newpaltz.edu) to ensure that you have completed all program requirements.
- Remember that only two grades below a B- may be applied to your [plan of study](#).
- Contact your advisor if you need to amend your [plan#](#) or [processtransfer credit](#).

- Ensure that you are in good academic standing with a GPA (Grade Point Average) of 3.0 or higher.
- Pass your capstone or culminating assessment.
- Complete your degree within the specified time limit outlined in the Program Overview.

- Have the ability to acquire information resources from scientific journals, geologic databases, internet resources, and other primary sources.
- Apply quantitative methods for problem solving, data analysis, and model formulation.
- Develop the skills to work independently and collaboratively on scientific problems.

## New York State Certification Testing requirements

- Obtaining fingerprint clearance. Information packets are available in the Secondary Education department (OM 323). Applicants for certification are asked to provide information about past convictions, misconduct, etc., on the application for a certificate, and the New York State Education Department is authorized to investigate complaints regarding an applicant's past convictions or any acts which raise a reasonable question as to the individual's moral character.
- Students must receive satisfactory scores on the New York State Teacher Certification Examinations. More information on these tests may be obtained at <http://www.nystce.nesinc.com>.

Upon graduation, students will receive the Master of Arts in Teaching (MAT) degree. Students will have completed all academic requirements for both initial and professional certification and will be recommended for both certifications. Students will receive their professional certificate after they have completed three years of satisfactory secondary teaching experience in their discipline and notification of such to the State Education Department.

For information on obtaining a teaching credential in New York State, please visit the New York State Education Department website at <http://www.highered.nysed.gov/tcert/>.

## Undergraduate Program Learning Outcomes

### BA Geology

#### Knowledge Areas

- Demonstrate mastery of the fundamental knowledge areas in the Geological Sciences.
- Show the ability to read and interpret topographic, geologic, and other maps, and demonstrate map making skills.
- Acquire competency in the supporting fields of Physics, Chemistry, and Mathematics, particularly as related to the Geological Sciences.

#### Research Skills

- Understand and use the scientific method to conduct research, and to be able to critically evaluate scientific work.
- Demonstrate the ability to observe, describe, and interpret geo-logic samples, outcrops, and regions using field data collection techniques and scientific methodologies.

#### Technical Skills

- Use a variety of geological field equipment for data collection.
- Use common geological laboratory instruments and techniques.
- Perform quantitative data analysis and interpretation using computers.

#### Communication Skills

- Effectively communicate technical findings and conclusions through written reports using formats and styles required for scientific writing.
- Demonstrate effective communication skills by giving oral presentations in a professional style.
- Use maps, three-dimensional diagrams, and other imagery to communicate factual information and concepts.

#### Learning Skills

- Demonstrate a regional and global understanding of the earth, including tectonic, historical, environmental, and resource management aspects, and their relationship to the human experience.
- Show the ability to describe and interpret a geological outcrop, demonstrating facility in applying scientific knowledge, observational techniques, the ability to synthesize, and communication skills.
- Have group field excursions with faculty members and other students involving the scientific study and aesthetic appreciation of the geological aspects of our world.

## Graduate Program Learning Outcomes

### Adolescence Education Earth Science (MAT)

Candidates who successfully complete all required components of the MAT Adolescence Earth Science program at SUNY New Paltz will:

- **Content Knowledge:** Enhance content area through synthesizing scientific conceptual understandings with pedagogical practice and implementation.
- **Planning:** Be able to plan lessons in science that are NYSP-12SLS standards-based, are clear and organized, rely upon a variety of

appropriate pedagogical practices, include appropriate technologies, and differentiate instruction that provides opportunities to promote appreciation of diversity, tolerance, and inclusion in safe, democratic, and equitable learning environments.

- **Assessment and P-12 Learning:** Be able to choose, design, and implement authentic and appropriate formative and summative assessments to evaluate student learning, consider assessment data when making instructional decisions, and identify effective or problematic teaching moments as they are occurring in order to facilitate student growth in specified content, cognitive skills, and/or social skills.
- **Pedagogical Practice:** Demonstrate the ability to maximize student learning by incorporating content with pedagogical knowledge, utilizing appropriate and effective technology, and implementing a variety of developmentally and contextually appropriate evidence-based instructional strategies to make learning meaningful and relevant for students while teaching.
- **Dispositions:** Exhibit the knowledge, skills, and dispositions necessary to practice an ethically informed and self-reflective philosophy, participate effectively in institutional change, and develop respectful relationships with students, families, communities and colleagues.
- **Critical Thinking and Reasoning:** Clearly articulate an issue or problem; identify, analyze, and evaluate ideas, data, and arguments as they engage in planning, assessing, and teaching; and acknowledge limitations such as perspective and bias as they develop well-reasoned arguments to form judgements and/or draw conclusions that support pedagogical decisions.
- **Information Literacy:** Locate appropriate resources effectively using appropriate tools; evaluate information with an awareness of authority, validity, and bias; and demonstrate an understanding of the ethical dimensions of information use, creation, and dissemination as they relate to the field of education.