

# BA CHEMISTRY + MAT ADOLESCENCE ED: CHEMISTRY AP

## Program Overview

AP Coordinator	Latanya Brandon, (845) 257-3118, <a href="mailto:brandonl@newpaltz.edu">brandonl@newpaltz.edu</a>
Chemistry Coordinator	Preeti Dhar, (845) 257-3797, <a href="mailto:dharp@newpaltz.edu">dharp@newpaltz.edu</a>
Program ID	BA Chemistry AP (50CH), MAT Adolescence Ed: Chemistry AP (104C)
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
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: Chemistry

## 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 chemist, or pursuing a Ph.D.

## How does it work?

Get started as an undergraduate by declaring the Chemistry AP major (50CH):

- **Meet** with AP advisor, [Latanya Brandon](#), to declare the Chemistry 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: Chemistry 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 104C.
- 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 Chemistry AP (50CH)

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
	Elementary Foreign Language I	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
ENG180	Composition II	3
CHE202	General Chemistry II	4
& CHE212	and General Chemistry II Lab	
MAT252	Calculus II	4
SED354	Foundations of Secondary Education Seminar	1
	Elementary Foreign Language II	3
<b>Credits</b>		<b>15</b>
<b>Year 2</b>		
<b>Fall</b>		
PHY201	General Physics 1	4
& PHY212	and General Physics 2 Lab	
CHE318	Organic Chemistry I	4
& CHE306	and Organic Chemistry I Lab	
EDS372	Developing Adolescence	3
	Arts Course	3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
EDS340	Sociological and Philosophical Foundations of Education	3
PHY202	General Physics 2	4
& PHY212	and General Physics 2 Lab	

CHE319 & CHE309	Organic Chemistry II and Organic Chemistry II Lab	4
Humanities Course		3
<b>Credits</b>		<b>14</b>
<b>Year 3</b>		
<b>Fall</b>		
CHE314	Inorganic Chemistry	3
CHE303	Introduction to Analytical Chemistry	4
MAT341	Applied Mathematics I	3
Western Civilization Course		3
Upper-division Liberal Arts elective		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
CHE321	Physical Chemistry I	3
EDS383	Introduction to Literacy for Diverse Learners	3
BIO201 & BIO211	General Biology I and Gen Bio 1 Lab	4
Other World Course		3
Upper-division Liberal Arts elective		3
<b>Credits</b>		<b>16</b>
<b>Year 4</b>		
<b>Fall</b>		
BIO201 & BIO211	General Biology I and Gen Bio 1 Lab	4
CHE323	Experimental Physical Chemistry	3
CHE322	Physical Chemistry II	3
Upper-division Liberal Arts or other elective		3
Graduate Education or Chemistry Liberal Arts Elective		3
<b>Credits</b>		<b>16</b>
<b>Spring</b>		
BCM461	Biochemistry 1	3
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 into the School & Classroom		3
Graduate Education or Chemistry Liberal Arts Elective		3
<b>Credits</b>		<b>16</b>
<b>Total Credits</b>		<b>122</b>

### MAT Adolescence Ed: Chemistry AP (104C)

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

Code	Title	Credits
<b>Summer (3 Credits)</b>		
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
<b>Fall (13 Credits)</b>		
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: Discipline-specific education course, approved Diversity elective, or a course in discipline 6

<b>Spring (14 Credits)</b>		
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
<b>Total Credits</b>		<b>30</b>

## 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 [process transfer 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.
- Extend and apply knowledge learned from courses in chemistry to areas outside of the field.
- Obtain experience in research in chemistry by working with a faculty mentor.
- Obtain experience in and knowledge of modern chemical instrumentation and laboratory techniques.

## 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 Chemistry

Program goals for students graduating with a degree in chemistry

- Develop a qualitative understanding of both atomic and molecular structure including shell structure, chemical bonding and the shapes of molecules.
- Understand trends in the periodic table such as size and reactivity.
- Obtain knowledge of the concepts of quantitative chemical analysis and its relationship to experimental measurements and be able to analyze the associated experimental error from each measurement.
- Derive mathematical relationships that are used to explain the chemical and physical processes of both macroscopic and molecular systems.
- Gain some understanding of the chemical and physical properties of biomolecules.

- Perform experiments following standard and more open-ended protocols.
- Be able to search and interpret articles from scientific journals.
- Become proficient at writing scientific reports and/or providing oral presentations based on experimental results and/or scientific subjects.

## Graduate Program Learning Outcomes

### MAT Adolescence Education: Chemistry

Candidates who successfully complete all required components of the MAT Adolescence Chemistry 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.