

# BA IN BIOLOGY + MAT IN ADOLESCENCE ED: BIOLOGY

## Program Overview

Education Coordinator	Latanya Brandon, (845) 257-3118, <a href="mailto:brandonl@newpaltz.edu">brandonl@newpaltz.edu</a>
Content Coordinator	Jeff Reinking, (845) 257-3771, <a href="mailto:reinkinj@newpaltz.edu">reinkinj@newpaltz.edu</a>
Program ID	101C
Credits	120 UG + 28 GR
Program Length	The MAT can be completed in one additional year of study if enrolled full-time, but students must complete the degree within 5 years
Modality	In-person
Full-time/Part-time	Full-time or Part-time
Transfer Credits	6
Capstone	Practicum
Certification/Licensure	NYSED Initial/Professional Adolescent Education: Biology

## 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 Five-Year Master Plan empowers students with options to choose the career they find most fulfilling, whether that means becoming a science teacher, working as a biologist, or pursuing a Ph.D.

## How does it work?

**ENROLL** in the Five-Year Master Plan and begin taking foundational science courses as a first-year student.

**MAINTAIN** a 3.0 GPA as you take embedded education courses and pursue your Bachelor of Arts (BA) degree in Biology.

**QUALIFY** for early admission to the graduate program during your junior year.

**EARN** your BA degree in four years, while taking education courses to prepare for your accelerated graduate program.

**COMPLETE** the MAT program, including all student teaching requirements in just one year.

## Admission Requirements

To participate in the BA/MAT program in Biology, interested undergraduates should:

1. Submit a Declaration of Major/Change of Major form indicating the BA/MAT program in Biology (major 508A) to the office of Records and Registration (Wooster Hall, rm. 115).
2. Meet with [Professor Latanya Brandon](#) to begin selecting courses. Maintain a GPA of 3.0 to fulfill admission requirements for the graduate program.

## Early Admission to Graduate Program

During their **junior** year, students finalize their early admission to the Master of Arts in Teaching program:

- Apply using the link above.
  - Create an account (if new to applying) or log in and follow the steps.
  - Select the fall term when you would like to begin your graduate coursework.
- NOTE:** This program only admits for the fall term.
- Select **BA Biology/MAT Adolescence Ed: Biology Program** (major 101C) as the intended curriculum.

## Upload Checklist Items

To expedite a faculty review of an application, students may upload the following items:

- Admission Essay
  - 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.**

- Student copies of transcripts\* from every college/university attended.
- Contact information for three references who can attest to the applicant's ability for graduate study.

\* Full admission **REQUIRES** the submission of official transcripts and test scores.

## Check Your Application Status

- Check your application status through the [applicant portal](#).

Sample undergraduate and graduate plans of study below:

### BA in Biology (major 508C)

Course	Title	Credits
<b>Year 1</b>		
<b>Fall</b>		
BIO201	General Biology I	3
BIO211	Gen Bio 1 Lab	1
MAT181	Precalculus	4
ENG170	Writing and Rhetoric	4
Languages 1		3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
BIO202	General Biology II	3
BIO212	Gen Bio 2 Lab	1
GE: The Arts		3
GE: Humanities		3
Languages 2		3
<b>Credits</b>		<b>13</b>
<b>Year 2</b>		
<b>Fall</b>		
BIO320	Genetics	3
BIO321	Genetics Lab	1

CHE201	General Chemistry I	3
CHE211	General Chemistry I Lab	1
Upper Division Biology Elective		4
EDS372	Developing Adolescence	3
<b>Credits</b>		<b>15</b>
<b>Spring</b>		
BIO322	Evolution	3
CHE202	General Chemistry II	3
CHE212	General Chemistry II Lab	1
EDS340	Sociological and Philosophical Foundations of Education	3
GE: World Civilizations		3
GE: Western Civilizations		3
<b>Credits</b>		<b>16</b>
<b>Year 3</b>		
<b>Fall</b>		
EDS383	Introduction to Literacy for Diverse Learners	3
Environmental Biology Course		4
Architecture of Life Course		3-4
Cognate 1		4
Elective		3
<b>Credits</b>		<b>17-18</b>
<b>Spring</b>		
SPE385	Differentiating Instruction in the Secondary School	3
Upper Division Biology Elective		3
Evol & Divr of Life Course		3-4
Cognate 2		4
Elective		3
<b>Credits</b>		<b>16-17</b>
<b>Year 4</b>		
<b>Fall</b>		
SED354	Foundations of Secondary Education Seminar	1
Upper Division Biology Elective		4
GR - Biology Elective		3
Work with Advisor to select one of the courses below:		3
UG Elective		
GR Course from Year 5 (Optional)		
UG Elective		3
<b>Credits</b>		<b>14</b>
<b>Spring</b>		
SED353	Field Work #1	1
SED453	Curriculum and Assessment in the Secondary School	3
Upper Division Biology Elective		4
SED541	Constructing Scientific Conceptual Knowledge <sup>1</sup>	3
SED542	Meaningful Problem Solving in Science <sup>1</sup>	3
<b>Credits</b>		<b>14</b>
<b>Total Credits</b>		<b>120-122</b>

<sup>1</sup> Students may take SED541, SED542 or an approved discipline-specific education course.

### MAT in Adolescence Ed: Biology (major 101C)

Code	Title	Credits
<b>Summer (3 Credits)</b>		
Select ONE of the following if offered: discipline-specific education course or an approved course in discipline		3
<b>Fall (11 Credits)</b>		
SED543	Science in the Secondary School	3
SED552	Field Experience II	1
Integrating ELLs in School & Classroom		3
SED/SPE/EDS Elective		3
SED525	Digital Literacies and Learning in Secondary Education	1
<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>28</b>

<sup>1</sup> If students complete 9 graduate credits during year four, then they will need to complete 28 credits in year 5.

<sup>2</sup> If students complete 12 graduate credits during year four, then they will need to complete 25 credits in year 5.

### 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 a 4+1 program precludes the student's good standing. Students with GPA of 2.75 to 2.99 strongly advised to reconsider continuing into GR program. Students 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
- by completing the Health & Safety training.

### 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 Objectives

### BA Biology

The mission of the BA in Biology program is to produce graduates with a firm foundation in the Biological Sciences who have simultaneously pursued in-depth study in another academic discipline.

#### Program Goals:

- To provide an assortment of relevant high-quality courses from which students can choose.
- To provide insightful and timely advising for students throughout their career at New Paltz
- To provide the flexibility necessary for students to pursue in-depth study in other academic disciplines.

#### Learning Outcomes:

- Students will understand fundamental biological principles.
- Students can collect data, present data appropriately and analyze data.
- Students can apply information from cognate courses to their coursework in biology (and vice versa).
- Students attend numerous presentations from scientists actively engaged in research.
- Students learn to work collaboratively.
- Students gain experience with modern lab and field techniques and technology.
- Students can solve problems related to course material.
- Students will enhance their ability to think quantitatively.

## Graduate Program Learning Objectives

### MAT Adolescence Education: Biology

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

### MSEd Adolescence Education: Biology

Candidates who successfully complete all required components of the Adolescence Biology 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.