

Queens College
Department of Secondary Education and Youth Services

Master of Arts in Teaching
MAT in Science Adolescent Education, Grades 7-12
Program Code: ASE 7-12-MAT

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Program of Study

The program of study is a combination of graduate level coursework in secondary education, science content, pedagogical science content knowledge, and clinical experiences at local area schools. The intent of the program is to graduate students who have a strong base of science content knowledge and solid pedagogical content knowledge based in research, theory, and practice.

Course No. and Title	Pre-requisites and Co-requisites	Credits	Semester Taken
<i>Pedagogical Core</i>			
SEYS 536 – Educational Foundations (Spring/Fall) Students must complete 30 hours of fieldwork in a secondary school.	Matriculation in program	3	
SEYS 552 – Educational Psychology (Fall) Students must complete 30 hours of fieldwork in a secondary school.	Matriculation in program	3	
ECPSE 550 – Foundations in Special Education (Spring/Fall) Students must complete 15 hours of fieldwork in a secondary school.	Matriculation in program	3	
SEYS 700 – Language, Literacy, and Culture in Education (Spring/Fall) Students must complete 30 hours of fieldwork in a secondary school.	Matriculation in program	3	
<i>Science Education Pedagogical Content Courses</i>			
SEYS 562 – Seminar in Teaching Science (Spring) Students must complete 30 hours of fieldwork in a secondary school.	Matriculation in program	3	
SEYS 582 – Standards-Based Curriculum and Assessment in Teaching Science (Fall)	Co-requisite: 572.2	3	
<i>Clinically-rich Student Teaching Program</i>			
SEYS 572.2* – ICE – Student Teaching I (Fall) 1. All students are required to complete 100+ hours of field work prior to the Initial Clinical Experience (Student Teaching I). 2. Submission of Content Specialty Test scores is required prior to Student Teaching I. (In potential area of initial certification) 3. <i>Candidates must also register for Content and Pedagogical Content Seminar for each semester of student teaching.</i>	Pre-requisite: SEYS 52, 536, 700, CST** Pre or Co-requisite: 552 Co-requisite: 582	3	

SEYS 572.4* – Student Teaching II (Spring) (In potential area of initial certification)	Pre-requisite: 572.2, 582	3	
<i>Professional Science Education Courses (Advanced Study)</i>			
Science Education Pedagogical Content Courses			
SEYS 753 –Computer Applications in Science Education (Spring) Students must have Initial Certificate or program director’s permission.		3	
OR			
SEYS 754 – Advanced Curriculum Study in Science (Spring) Students must have Initial Certificate or program director’s permission.		3	
SEYS 777 – Research in Science Education I (Fall semester)	Pre-requisite: All coursework for Initial certification	3	
SEYS 778 – Research in Science Education II (Spring semester)	Pre-requisites: SEYS 777* and approved research proposal.	3	

Graduate Studies in Science

This refers to coursework in Biology, Chemistry, Geology and/or Physics. At least 9 credits have to be taken in science content courses. Courses must be selected from the 500-700 level with the approval of the advisor.

Course No. and Title		Pre-requisites and Co-requisites	Credit	Semester Taken
Geology 552**	GLOBE Environmental Science Research Course		3	

*Sample of Graduate Level Courses in the Science Content Area (minimum of 9 credits with advisor’s approval).**

For the Science Content, a typical selection of courses might be drawn from the following:

- Biology 585 – Principles of Genetics
- Biology 586 – Principles of Cell Biology
- Biology 587 – Principles of Evolutionary Biology
- Chemistry 501 & 502 – Modern Concepts in General Chemistry
- Chemistry 503 – Special Topics: High School Chemistry
- Chemistry 504 – Environmental Chemistry

- Geology 501 – Earth Composition and Processes
- Geology 520 – Meteorology
- Geology 522 – Applied Geological Reasoning: The Geology of New York
- **Geology 552** – GLOBE Environmental Science Research Course**
- Physics 501 – Modern Aspects of Physics
- PHYS 503. Selected Topics in General Physics
- PHYS 657. Introduction to Astrophysics

It is noted that students must accumulate through their undergraduate and graduate work a minimum total of 36 credits in science with a minimum of 30 of those credits in their specialist discipline (i.e., biology, chemistry, earth science, physics) to satisfy the New York State requirement for certification in the specialty area.

* Additional science classes must be approved by your advisor and will be selected based on any areas where deficiency in your educational preparation is identified.

** All MAT students are required to take Geology 552.

Total number of credits required = 42 (minimum)