

### ***What kind of science teacher do we prepare?***

At the Warner School, we do not just prepare teachers to survive in today's schools; our graduates are reflective practitioners who are committed to social justice, equity and school reform. To this end, we strive to prepare science teachers who:

- Understand that learning science is more than just memorizing facts and procedures.
- Are familiar with best practices and curricula for teaching science.
- Can make science meaningful and relevant to students.
- Are committed to enable *all* students to learn science.

Based on research about how people learn and what is most effective in preparing teachers, we have designed our programs to:

- Deepen your understanding of science while learning about innovative and effective methods to teach science.
- Help you develop an approach to teaching science that is grounded in knowledge of the research, theory, issues and trends influencing science education.
- Encourage you to integrate theory and practice, as well as content and pedagogy.
- Raise your awareness about students' differences and individual needs, and develop strategies to address them equitably in your teaching.
- Learn how to construct classroom environments that promote social justice and equity.
- Develop the habits of a reflective practitioner, so that professional growth and improvement continues after completion of the program.

### ***What are the pre-requisites for entering Warner programs leading to an additional teaching certification in a science?***

If you already have New York State (NYS) Teaching Certification in some area of specialization, you should have already completed a Bachelor's degree with a major or concentration in one or more of the liberal arts and sciences, and have taken at least two courses in a language other than English – two of the “core content” pre-requisites for obtaining NYS Teaching Certification as a specialist in Biology, Chemistry, Physics or Earth Science.

In addition, NYSED requires specialists in Biology, Chemistry, Physics or Earth Science to have completed a minimum of 30 credit hours of coursework (at either the undergraduate or graduate level) in science, with at least 18 credits in the science of specialization. We expect students entering our programs to have already fulfilled this requirement. If this pre-requisite is not fully met by your previous coursework and experiences, you may be allowed to enter our programs at the discretion of your advisor; you will, however, have to take the needed coursework before the end of the program in order to be recommended for certification to the New York State Education Department. Some science courses taken at the graduate level can be used as electives in your Warner program, provided that they are taken at the graduate level and have been approved by your advisor as part of your program of study.

### ***Some statistics about job opportunities in teaching***

Teachers held about 3.4 million jobs in 1998. Of those, about 1.9 million were kindergarten and elementary school teachers, 1.4 million were secondary teachers, and about half a million were special education teachers. Employment is distributed geographically, much the same as the population.

Overall employment of teachers is expected to increase about as fast as the national average through the year 2008. The expected retirement of a large number of teachers should open up many additional jobs.

The job market for teachers varies widely by geographic area. Many inner cities that struggle with higher than average crime and poverty rates and rural areas in remote locations have difficulty attracting teachers, so job prospects will continue to be better in these areas than in suburban districts. Also, teachers who are geographically mobile and who obtain licensure in more than one subject should have an advantage in finding employment.

Median annual earnings of all teachers ranged from \$33,590 to \$37,890 in 1998. The lowest 10 percent ranged from \$19,710 to \$24,390; the top 10 percent from \$53,720 to \$70,030.

***What are your options to obtain an additional teaching certification in science at Warner?***

***At what grade levels do you want to teach?***

At the Warner School, we have programs that enable you to obtain NYS Certification to teach Biology, Chemistry, Physics or Earth Science at one of the following grade levels:

- **Grades 5-9** (*NYS certification in Middle Childhood – MC*)
- **Grades 7-12** (*NYS certification in Adolescence -- AD*)
- **Grades 5-12** (*NYS certification in Adolescence PLUS extension to grades 5-6 – AD+*)

***Do you need professional certification in your original area?***

If you need to obtain NYS Professional Teaching Certification in your original area, you can enroll in a M.S. program leading to Initial certification to teach your chosen science at one of the grade levels listed above. This Masters program will also meet all the academic requirements set by New York State to obtain Professional certification in science as well as in your original area. This program includes 30 credits of coursework, plus a 2-credit-hour field experience.

If you already have NYS Professional Teaching Certification in your original area, you also have the option to choose one of our non-degree programs that will enable you to obtain initial and professional certification in science at your chosen grade level with the minimum possible number of courses. The number of credits required, in this case, will depend on how many of the required courses and internships you have already taken as part of your previous programs.

Both options can be completed part-time while holding a full-time teaching job, provided that appropriate arrangements are made to fulfill the required internships.

***What do our programs for additional certification in science look like?***

**M.S. programs (32 credits):**

1. ***Masters' Core:***

- Masters' Research Methods
- Teaching, Curriculum & Change OR Race, Class, Gender & Disability in American Education

2. ***Specialization: 4-7 courses about human development and the learning and teaching of Science):***

- Adolescent Development and Youth Culture (*if needed*)
- Theory & Practice in Teaching & Learning Science
- Implementing Innovation in Science Education

<p><b><i>MC:</i></b></p> <ul style="list-style-type: none"> <li>• Theory &amp; Practice in Teaching &amp; Learning Science in Elementary School</li> <li>• Literacy Learning as Social Practice (<i>if needed</i>)</li> <li>• Theory &amp; Practice in Teaching &amp; Learning Literacy in Elementary School (<i>if needed</i>)</li> </ul>	<p><b><i>AD:</i></b></p> <ul style="list-style-type: none"> <li>• Integrating Science and Technology</li> </ul>	<p><b><i>AD+:</i></b></p> <ul style="list-style-type: none"> <li>• Integrating Science and Technology</li> <li>• Theory &amp; Practice in Teaching &amp; Learning Science in Elementary School</li> <li>• Literacy Learning as Social Practice (<i>if needed</i>)</li> <li>• Theory &amp; Practice in Teaching &amp; Learning Literacy in Elementary School (<i>if needed</i>)</li> </ul>
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3. ***Electives: 1-4 courses to be chosen in consultation with your advisor.***

4. ***Internships: Apprenticeship experiences in school settings at the chosen grade level, occurring concurrent with the Theory & Practice course:***

- Field Experiences (>50 hours, part-time in Fall) (2 credits)

5. ***Master's Essay.***

**Non-degree programs (8-20 credits):** Only the specialization courses that you have NOT already taken as part of your previous teacher preparation program(s) and the field experience.

***Choice of electives includes, but is not limited to, the following courses:***

- Integrating Science and Literacy (*Summer/odd*)
- School, Family and Community Partnerships (*Fall*)
- Teaching and Learning in Inclusive Classrooms (*Fall*)
- Collaborative Teaching Partnerships in Inclusive Classrooms (*Summer*)
- Instructional Strategies for Inclusive Classrooms (*Spring*)
- History of American Education
- Philosophy of Education
- Science courses offered in The College

### ***What courses can you transfer into your Warner program?***

If you choose to enroll in a M.S. program, you can transfer up to 10 credits of graduate coursework into your program – provided that these courses are relevant to your program (i.e., can substitute for some required or elective course on your program of study), you took them within the last 5 years and at the graduate level, and they are approved by the Dean’s Office. Otherwise, required courses that you have already taken in previous programs can be substituted with electives.

If you choose one of our non-degree programs, you can transfer in any of the required courses you have previously taken (either at the undergraduate or graduate level), upon approval by the Dean’s office.

### ***What else would you need in order to obtain NYS certification?***

You need to be a NYS permanent resident to obtain any certification from NYS.

#### **Additional requirements for Initial Teaching Certification in a science**

In addition to the coursework and experiences that you will undertake in your program (as described in the previous pages), you will also need to meet the following requirements established by NYSED for all those seeking an Initial Teaching Certification as a specialist in biology, chemistry, physics or earth science:

- Attendance to the NYS-approved workshops on Child Abuse and School Violence Prevention & Intervention (*if you did not comply with this requirement as part of your first certification program*)
- Passing each of the following NYS Teacher Examinations:
  - LAST (Liberal Arts and Science Test) (*if not done yet*)
  - ATS-W (Assessment of Teaching Skills—written) (*if not done yet*)
  - CST (Content Specialty Test) (*expected to be in place starting Fall 2003*)
- Fingerprint-supported background check (*if one is not already on file with NYSED*)

#### **Additional requirements for Professional Teaching Certification in science and your original area of specialization**

Once you have completed one of the M.S. programs described in this booklet, you will also have satisfied all the *academic* requirements established by NYSED for obtaining Professional Teaching Certification *both* in biology, chemistry, physics or earth science and your original area of certification. In addition, however, you will also need to satisfy the following requirements:

- Passing each of the following NYS Teacher Examinations:
  - ATS-P Video (Assessment of Teaching Skills—Performance)
  - CST (Content Specialty Test) in both ESOL and your original area of specialization (*expected to be in place starting Fall 2003*)
- Having completed a minimum of 3 years of teaching experience, with the first one conducted in a mentored situation.

## ***Information about our admission process and criteria***

As part of your application, you are asked to submit a portfolio containing the following information:

- Original transcripts from all the higher education institutions attended.
- Writing sample (scholarly paper).
- Personal statement about their career goals, interests, and objectives in entering the program.
- At least 2 letters of recommendation.
- TOEFL scores for international applicants who are not native English speakers.

In addition, you have to schedule an individual interview with a Warner School faculty member affiliated with the teacher preparation program you have applied to. The faculty member completes an interview report that is then added to your application file.

All of these materials are reviewed by the entire faculty in the Teaching and Curriculum department, and then by the Admission and Financial Aid Committee of the Warner School, taking into consideration the following admission criteria:

1. Applicants must have received a Bachelor's degree from an accredited institution or equivalent by the time they enter the program.
2. Applicants must have the ability to do graduate work at the University of Rochester, as demonstrated by their past academic performance and their academic writing skills.
3. Applicants must have sufficient knowledge of the subject matters they intend to teach, appropriate to the specialization and grade level of the certification(s) sought.
4. Applicants must demonstrate sufficient communication and interpersonal skills to serve students well in an instructional setting.
5. Applicants' career goals, teaching interests, academic background, attitudes and teaching philosophy must be consistent with the programs offered by the Warner School and its stated mission.

When admitted into the program, you will be assigned an academic advisor, who will support and monitor your progress throughout the program. You will also be expected to attend an orientation meeting intended to help you finalize your program of study.

## Summary of options for teachers seeking an additional certification in science:

<u>Age level</u>	<b><i>Middle Childhood (MC)</i></b>	<b><i>Adolescence (AD)</i></b>	<b><i>Adolescence + 5-6 extension (AD+)</i></b>
<b><i>Type of program:</i></b>	<b><i>Teaching the chosen science in grades 5-9</i></b>	<b><i>Teaching the chosen science in grades 7-12</i></b>	<b><i>Teaching the chosen science in grades 5-12</i></b>
<b><i>M.S. programs</i></b>  Meets academic requirements for NYS Professional certification in original area + Initial & Professional certification to teach your chosen science at the chosen grade level(s)	M.S. degree leading to NYS Initial + Professional Certification in Middle Childhood (grades 5-9) as specialist in biology/ chemistry/ physics/ earth science PLUS Professional Certification in original area  <b>PROGRAM (a)</b>  <i>32 credits</i>	M.S. degree leading to NYS Initial + Professional Certification in Adolescence (grades 7-12) as specialist in biology/ chemistry/ physics/ earth science PLUS Professional Certification in original area  <b>PROGRAM (c)</b>  <i>32 credits</i>	M.S. degree leading to NYS Initial + Professional Certification in Adolescence (grades 7-12) as specialist in biology/ chemistry/ physics/ earth science PLUS Extension to teach biology/ chemistry/ physics/ earth science in grades 5-6 PLUS Professional Certification in original area  <b>PROGRAM (e)</b>  <i>32 credits</i>
<b><i>Non-degree programs</i></b>  Meets academic requirements for Initial + Professional Certification to teach your chosen science at the chosen grade level(s) ONLY, with minimum coursework and credits	Leads to NYS Initial + Professional Certification in Middle Childhood (grades 5-9) as specialist in biology/ chemistry/ physics/ earth science  <b>PROGRAM (b)</b>  <i>variable credits</i>	Leads to NYS Initial + Professional Certification in Adolescence (grades 7-12) as specialist in biology/ chemistry/ physics/ earth science  <b>PROGRAM (d)</b>  <i>variable credits</i>	

**Programs of study for each option follow.**