



# BIOLOGY 7-12 CERTIFICATION

## MASTER OF ARTS IN TEACHING PROGRAM

The mission of the post-bacc secondary biology education program is to prepare professionals who understand that pedagogical choices grow from a deep understanding of the disciplinary knowledge of the biological sciences, in relation to a consideration of the unique needs of learners in 21st century classrooms and beyond. That consideration honors the diverse nature of students in the classroom, and grows from an understanding of the community being served. Starting with this pedagogical-content knowledge, candidates construct standards-based plans that are grounded in a study of best practice as defined by research, models of excellence in the field, and creative contemplation. This includes the Next Generation Science Standards (NGSS) and the related Framework for K-12 Science Education, developed by the National Research Council. In addition, candidates develop an understanding of the relationships and opportunities for building connections between the NGSS and Common Core Standards in Math and English Language Arts. These connections underscore the importance of developing scientific literacy for all learners. The construction of lesson and unit level plans forms the foundation of a practice pushed forward by reflection, thoughtful revision, and dialogue with other professionals. The emphasis on reflective practice recognizes that both educational policy and learner characteristics are fluid and dynamic. This positions candidates as scholars of their practice, and connoisseurs of the research that informs best practices in social studies teaching and learning and beyond. Candidates understand that this practice grows throughout their career.

### Course Requirements

#### Professional Education Courses Required for Certification

- EDUC 502.2 Intro. to the Education of English Language Learners (spring)
- EDUC 503 Student Development & Instructional Design (40 hr Stage 1&2 Field Exp)
- EDUC 507 Culture, Community & Diversity: Intro. to Critical Pedagogy (40 hour Stage 1&2 Field Experience/ fulfills M3)
- EDUC 530.2 Computer Technology in the Classroom

- EDUC 534 Including Students with Disabilities (spring)
- EDUC 540 Reflective Teaching (offered fall only; 40 hour Stage 3 Field Exp.)
- EDUC 564 Curriculum and Instruction in the Sciences (offered fall only; 110 hour Stage 3 Field Experience)
- EDUC 575-7 Student Teaching
- EDUC 578 Seminar in Secondary Student Teaching
- Biology Major Course Requirements In Biology, Chemistry And Mathematics**

Biology: (these 5 courses plus 4 electives)

- BIOL 112 General Zoology
- BIOL 119 Introductory Botany
- Biology Electives

Four other Biology courses are required. Three of these must be at the 200 level or higher. BIOL 360, Ecology, and BIOL 350, Vertebrate Physiology, are strongly recommended as electives.

Mathematics: (1 of these courses)

- MATH 106/166 Geom. & Calc. Review Pts I & II
- MATH 107 Elementary Statistics
- MATH 170 Analytic Geometry & Calculus I

Chemistry: (4 courses)

- CHEM 113 General Chemistry I
- CHEM 114 General Chemistry II
- CHEM 211 Organic Chemistry I
- CHEM 212 Organic Chemistry II

One Additional Elective

The program provides for one additional elective. Students should endeavor to use this elective to broaden their science background with a course appropriate to their interests and previous training. Physics is most strongly

recommended as an elective. (Note that calculus is needed as a prerequisite or co-requisite for the PHYS 111 and PHYS 112 courses but there is no college math requirement for the PHYS 109 and PHYS 110 courses.)

### Teacher Action Research

- EDUC 500 The Teacher as Inquirer
- EDUC 506 The Teacher as Researcher
- EDUC 508 The Teacher as Evaluator
- EDUC 700 Curriculum Development and Action Research
- EDUC 701 Writing a Review of Educational Research
- EDUC 702 Reflective Practice Seminar
- EDUC 704-5 Literacy-Based Action Research Thesis

## The Field Experience Program

The purpose of the field experience is to provide students with appropriate classroom experiences at each level of their coursework. These experiences are meant to assist the student in determining whether teaching is an appropriate career choice.

Several courses in the professional education sequence require day-time field experiences. These are: EDUC 503, Student Development & Instructional Design, and EDUC 507, Culture, Community & Diversity: Intro. to Critical Pedagogy, both of which require a 40 hour Stage 1&2 field experience; EDUC 540, Reflective Teaching in Secondary Schools, with a 40 hour Stage 3 field experience; and EDUC 564, Curriculum and Instruction in the Secondary - Science, with a 110 hour Stage 3 pre-student teaching field experience.

The Education Department's Director of Field Experiences is responsible for securing all field placements which will be in local public or private schools. Candidates who are not able to complete these experiences will be required to take EDUC 586.2 Early Field Experience or EDUC 558.2 Pre-Student Teaching Field Experience I prior to acceptance into student teaching.

Stage 4 Student Teaching is the culminating experience of the teacher preparation program. It takes place under the supervision of qualified program faculty and cooperating teachers. Student teachers will have two placements during the semester. All U.S. placements are in Pennsylvania schools near the College. In addition to the daily classroom experience, students are required to attend a weekly seminar with their College supervisors.

## Clearance Requirements

There are three clearance checks required of ALL STUDENTS by the Pennsylvania Department of Education at every level of Field Experience. These are: FBI Federal Criminal History Record, Pennsylvania State Police Criminal Record Check, and Pennsylvania Child Abuse History Clearance. Students will be placed in field experiences only if all background checks are clear of record. Clearances must be updated annually and valid for the entire field placement. Unless clearances have been updated, students will be unable to register for Education courses with field experiences.

In addition, all students must have a TB test within three months of the start of any field placement.

## Important Guidelines

- Students must have an overall GPA of 2.7 in order to take education courses numbered above 510.
- All education courses must be completed prior to beginning student teaching. No other courses should be taken during the student teaching semester.
- Students must have prior written approval by the program coordinator if they plan to complete any of these courses at another institution.

## The Requirement for Basic Skills Assessment

Students in all Pennsylvania Instructional I teacher certification programs must successfully complete basic skills assessments in reading, mathematics and writing. Currently there are two testing options. You may take either the Pearson PECT Pre-service Academic Performance Assessment (PAPA) or the ETS Praxis Core Academic Skills for Educators (CORE) exams. Please consult test provider websites for additional information regarding test content, testing locations and registration procedures. See: <http://www.pa.nesinc.com>, select 'tests'; then 'PAPA' and/or <https://www.ets.org/praxis/about/core/>.

Students may qualify for exemption from the basic skills assessment exams based on their SAT or ACT scores. Please contact the Education Department regarding exemptions and other test related questions you may have.

Candidates are encouraged to take the PAPA or CORE exams prior to or during the sophomore year. If not exempt, all teacher certification candidates will be required to pass these tests prior to admission into the teacher certification program and participation in any Stage 3 Field Experiences.

A content knowledge Praxis Level II tests administered by ETS is also required. Content knowledge tests should be taken after most appropriate course work has been completed, but prior to student teaching. The Praxis Series Registration Bulletin found online at: <http://www.ets.org/praxis/about/bulletin/> will have the most up-to-date information. Test scores should be reported to Moravian College (RA2418) and the Pennsylvania Department of Education. Students who test in another state must list PDE as a score recipient to avoid processing delays of their teaching certificate. Test results for in state tests are automatically reported to the Pennsylvania Department of Education.

### Testing Requirements for Biology (7-12)

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#### Basic Skills Assessments

(Administered by Pearson or ETS)

- \*PAPA Modules: Reading/Math/Writing
- \*or CORE Modules: Reading/Math/Writing
- \*or testing EXEMPTION based on SAT/ACT scores

\*REQUIRED PRIOR TO Acceptance into the Teacher Certification Program and Participation in STAGE 3 PST Field Experiences.

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#### Content Area Test

(One Required,

Administered by ETS)

Biology:

\*\*Content Knowledge Test Code: 5235

\*\*REQUIRED PRIOR TO CERTIFICATION IN PENNSYLVANIA.



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