



CERTIFICATION PHYSICS 7-12

THE TEACHER EDUCATION PROGRAM FOR SECONDARY PHYSICS

The mission of the secondary physics education program is to prepare professionals who understand that pedagogical choices grow from a deep understanding of the disciplinary knowledge of the physical and chemical sciences, and related mathematics content, 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

Important Guidelines

- Students must have an overall QPA of 2.7 in order to take education courses at the 200 level or above.
- All education courses must be completed prior to beginning student teaching. No other courses should be taken during the student teaching semester which is completed in the senior year.
- Students must have prior written approval by the program coordinator if they plan to complete any of these courses at another institution.

Professional Education Courses Required For Certification

Recommended for the freshman year, spring

EDUC 160 Culture, Community & Diversity: Intro. to Critical Pedagogy (40 hour Stage 1&2 Field Experience/ fulfills M3)

Recommended for the sophomore year

EDUC 130 Student Development & Instructional Design (40 hr. Stage 1&2 Field Exp)
EDUC 100.2 Intro. to the Education of English Language Learners (spring)
EDUC 244 Including Students with Disabilities (spring or during Junior year)
EDUC 140.2 Computer Technology in the Classroom

Recommended for the junior year

EDUC 260 Reflective Teaching (offered fall only; 40 hour Stage 3 Field Exp.)

Recommended for the senior year

EDUC 364 Curriculum and Instruction in Science (offered fall only; 110 hour Stage 3 Field Experience)
EDUC 375-7 Student Teaching
EDUC 378 Seminar in Secondary Student Teaching

Physics Majors Choose Between Two Tracks: Physics Or Physics/Math

Physics/Math Track (6 physics courses)

PHYS 111 Introductory Physics I
PHYS 112 Introductory Physics II
PHYS 221 Linear Electronics (fall)
PHYS 222 Modern Physics (spring)
PHYS 331* Mechanics (alternate yrs)
PHYS 333* Optics (alternate yrs)
* Other Physics courses may be substituted with instructor's permission.

Mathematics (6 courses)

MATH 170 Analytic Geom. & Calc. I
(or substitute Math 106 /166)
MATH 171 Analytic Geom. & Calc. II
MATH 211 Analytic Geom. & Calc. III
MATH 221 Differential Equations (spring)
MATH 327 Advanced Calculus (fall)
PHYS 343 Intro to Mathematical Physics
MATH ### Mathematics Elective

Chemistry (1 course)

CHEM 113 General Chemistry

Physics Track (10 courses)

PHYS 111 Introductory Physics I
PHYS 112 Introductory Physics II
PHYS 222 Modern Physics
PHYS 331 Mechanics
PHYS 341 Quantum Mechanics
PHYS 345-6 Electric & Magnetic Fields
Plus 3 additional courses in Physics
*If PHYS 343 is taken, MATH 327 may be omitted.

Chemistry (1 course)

CHEM 113 General Chemistry

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.

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 130, Student Development and Instructional Design, and EDUC 160, Culture, Community, & Diversity: Introduction to Critical Pedagogy, both of which require a 40 hour Stage 1&2 field experience; EDUC 260, Reflective Teaching, with a 40 hour Stage 3 field experience; and EDUC 364, Curriculum and Instruction in 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 158.2 Stage 1&2 Field Experience or EDUC 358 Stage 3 Pre-Student Teaching Field Experience 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.

The LinC Curriculum

The Pennsylvania Department of Education mandates that all teacher certification candidates complete the courses bulleted below. These courses also satisfy Moravian College LinC requirements and the liberal education guidelines for most Moravian students. Exceptions are listed in the catalog under the topics "Individually Designed Majors" and "Add Venture Programs."

- First Year Seminar (F1)
- One course in American or English Literature (ENG 101, 102, 103, 104, 105 or acceptable Special Topics) (M2)
- One and one-half course units in Math (F2) (the LinC requirement is for one course unit; PDE and the Moravian Education Department mandate an additional 0.5 course unit)

Moravian College is accredited by the Middle States Association of Colleges and Secondary Schools and is an institutional member of the Association for Continuing Higher Education. The information in this document is provided for the assistance of the student. It is accurate at the time of printing but is subject to change from time to time as deemed appropriate by the College in order to fulfill its role and mission, or to accommodate circumstances beyond its control. Any such changes may be implemented without prior notice and without obligation, and unless specified otherwise, are effective when made.

The Basic Skills Assessment Requirement

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 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/>. Candidates may combine passing scores from individual PAPA and CORE tests to meet the basic skills reading, math, and writing requirement.

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 Basic Skills Test (PAPA or CORE) 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 be enrolled in any 300 level and above courses in Education and 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 Physics (7-12)

1

*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.

2

Content Area Test

(One Required,
Administered by ETS)

****Physics:**
Content Knowledge
Test Code: 5265

****REQUIRED PRIOR TO**
CERTIFICATION IN PENNSYLVANIA.

