The Teaching, Learning, and Technology (TLT) Program offers a 5-year program in which undergraduates are permitted to take selected courses while completing their undergraduate degrees in a content area. Following graduation, in an additional year, these students complete the remaining coursework toward teacher certification and a master’s degree.

Lehigh undergraduates who did not participate in our 5-year program, as well as students who have graduated from other institutions with at least a bachelor’s degree, may also earn their teacher certification, either alone or as part of an appropriate master’s degree.

Students seeking initial teacher certification may earn a Master of Education in Elementary Education with PreK-4 Teacher Certification or a Master of Education (or a Master of Arts) in Secondary Education with Teacher Certification. Students wishing to earn dual certification in both general education and special education may earn their master’s degree and acquire such dual certification by completing additional courses in Special Education. Special education certification is PreK-12th grade. Students may also complete additional courses to add an English as a Second Language program specialist (PreK-12) certification.

Courses toward initial teacher certification are taught by faculty from the Special Education program and the Teaching, Learning, and Technology program. Our preparation programs highlight research-based, inquiry-oriented, and technology-enabled strategies to reach all learners. We emphasize collaborative and equitable approaches to instruction and learning.

Lehigh’s College of Education is accredited by the Pennsylvania Department of Education (PDE) to offer 11 teacher certifications:

- Elementary Education (Grades PreK-4);
- Eight Secondary (7th-12th grade) certifications: Biology, Chemistry, Earth and Space Science, General Science, Physics, English, Mathematics, and Social Studies; and
- Two additional certifications may be earned either at the same time or after students earn their general education certification: Special Education PreK-12; English as a Second Language program specialist (PreK-12)

Pennsylvania has reciprocal agreements with 47 other states and the District of Columbia; individuals holding teacher certification in Pennsylvania may receive equivalent certification in one of those states. The College of Education also has relationships with international schools all over the world, enabling new teacher graduates to pursue teaching opportunities abroad.

For additional information about the program, please visit: http://coe.lehigh.edu/academics/disciplines/teachered

**Professors.** Alec M. Bodzin, PhD (North Carolina State University); Lee Kern, PhD (University of South Florida)

**Associate Professors.** Helen Lynn Columba-Piervallo, EdD (University of Louisville); Minyi Shih Dennis, PhD (University of Texas at Austin); Thomas Chalmers Hammond, PhD (University of Virginia); Brook Sawyer, PhD (University of Virginia)

**Assistant Professors.** Ana D Duenas, PhD (Michigan State University); Sara Kangas, PhD (Temple University); Esther Lindstrom, PhD (Vanderbilt University); Kristi Morin, PhD (Texas A&M University)

**Professor Of Practice.** Farah L. Vallera, PhD (Lehigh University)

**Emeriti.** Linda M. Bambara, EdD (Vanderbilt University); Ward M. Cates, EdD (Duke University); Scott Roy Garrigan, EdD (Lehigh University); Warren R. Heydenberk, PhD (University of Northern Colorado)

Lehigh undergraduates may enroll in either of the College of Education’s 5-year teacher certification areas: Elementary Education (grade levels PreK through 4) and Secondary Education (grade levels 7 through 12). A Minor in Education is offered through the College of Arts and Sciences.

For information on the 5-year programs, see below. For information on the Education Minor, see the College of Arts and Sciences ‘Minor Programs in the College’.

**5-YEAR MASTER OF EDUCATION IN ELEMENTARY EDUCATION AND PREK-4 TEACHER CERTIFICATION**

The College of Education offers a five-year degree program that is designed to allow students to earn both a bachelor’s degree and a master’s degree in five years instead of the traditional six. The combined degree program leads to either a B.A. or B.S. degree in an academic discipline from the College of Arts and Sciences, the P.C. Rossin College of Engineering and Applied Sciences, or the College of Business, and an M.Ed. degree in Elementary Education. In addition, students also earn eligibility for an Instructional I teaching certificate from the Pennsylvania Department of Education (PDE) for PreK-4.

**PROGRAM OF STUDY FOR PREK-4 CERTIFICATION:**

B.A. or B.S. plus Master of Education (M.Ed.) in Elementary Education and PA Certification eligibility. This 42-credit (minimum) master’s program prepares students for certification as PreK-4 teachers. Students complete coursework in three categories:

**Core Course Work (21 credit hours)**

- SPED 332 Education and Inclusion of Individuals with Special Needs in K-12
- TLT 380 Child Development and Cognition
- TLT 404 Cultural and Linguistic Diversity
- TLT 405 Principles and Applications of K-12 Assessment
- TLT 407 Instructional Design for K-12 Classrooms
- TLT 409 K-12 Classroom Environment and Management
- TLT 411 Early Childhood Education

**Development of Professional Skills (18 credit hours)**

- TLT 412 Social Studies in PreK through 4th Grade
- TLT 420 Literacy in PreK through 4th Grade: Reading and Its Foundations
- TLT 422 Literacy in PreK through 4th Grade: Writing and Its Foundations
- TLT 426 Science in PreK through 4th Grade
- TLT 428 Mathematics and Numeracy in PreK through 4th Grade
- SPED 465 Advanced Inclusionary Practices in K-12

**Extended Field Experience (3-6 credit hours)**

- TLT 444 General Education Student Teaching and Seminar

In order to be eligible for PreK-4 certification, by the time a student finishes the program, he or she must have demonstrated competence in the core content areas for that certification. At time of acceptance, each student will be informed of any additional content-area coursework he or she will be required to complete in order to demonstrate competence in the PreK-4 core content areas. The student is responsible for completing this coursework prior to applying for PreK-4 certification. The credits for this coursework are not included in the master’s degree.

**Distribution of coursework across undergraduate and graduate study:***

- Sophomore Year (3 credit hours)
- Junior Year (3 credit hours)
- Senior Year (12 credit hours)
- College of Education - Summer (12 credits)
- College of Education - Fall (9 credits)
College of Education - Spring (3-6 credits)
Students in the 5-year program will take 18 credits pre-bachelor’s and an additional 27 credits post-bachelor’s. However, the University requires that master’s degrees carry at least 30 credits minimum. This means students in the 5-year program must have at least 3 credits “left over” from their bachelor’s program to move across to the College of Education to put toward their master’s degree.

5-YEAR MASTER OF EDUCATION IN SECONDARY EDUCATION AND 7-12 TEACHER CERTIFICATION
The College of Education offers a five-year degree program that is designed to allow students to earn both a bachelor's degree and a master's degree in five years instead of the traditional six.

The combined degree program leads to (1) a B.A./B.S. degree in an academic discipline from the College of Arts and Sciences, the P.C. Rossin College of Engineering and Applied Sciences, or the College of Business, and (2) an M.Ed. degree in Secondary Education. In addition, students also earn eligibility for Instructional I teacher certification from the Pennsylvania Department of Education (PDE) in one of the 8 subject areas below:
- Biology 7-12
- Chemistry 7-12
- Earth and Space Science 7-12
- English 7-12
- General Science 7-12
- Mathematics 7-12
- Physics 7-12
- Social Studies 7-12

PROGRAM OF STUDY:
B.A. or B.S. plus Master of Education (M.Ed., 33 credits minimum) and Pennsylvania teacher certification eligibility. In addition to meeting the requirements for the bachelor's degree, students must satisfy the Pennsylvania Department of Education guidelines for demonstrated content-area competence (see below).

Students complete coursework in three categories:

Core Coursework (15 credits)
- SPED 332 Education and Inclusion of Individuals with Special Needs in K-12 3
- TLT 404 Cultural and Linguistic Diversity 3
- TLT 405 Principles and Applications of K-12 Assessment 3
- TLT 407 Instructional Design for K-12 Classrooms 3
- TLT 409 K-12 Classroom Environment and Management 3

Development of Professional Skills (12 credits)
Content-area teaching methods course with approval of adviser (one of the following):
- TLT 431 Social Studies in Middle Level and High School Education 3
- TLT 434 English in Middle Level and High School Education 3
- TLT 436 Science in Middle Level and High School Education 3
- TLT 438 Mathematics in Middle Level and High School Education 3

Plus:
- TLT 432 Reading and Critical Thinking in Middle Level and High School Education 3

- SPED 465 Advanced Inclusionary Practices in K-12 3

- TLT XXX Elective with adviser approval 3

Extended Field Experiences (6-9 credits)
- TLT 440 Pre-professional Seminar 3

TLT 444 General Education Student Teaching and Seminar 1-6

In order to be eligible for secondary certification, by the time a student finishes the program he or she must have demonstrated competence in the subject matter area of that certification. Each student upon admission meets with the content-area specialist in the field in which that student seeks secondary certification. The content-area specialist, who is a faculty member in the College of Arts and Sciences, reviews the student’s transcripts and compares that student’s coursework with the content-area guide sheet approved by the Pennsylvania Department of Education (PDE). Following this audit, the content-area specialist will identify what additional coursework in the content-area is needed, if any. The student is responsible for completing this coursework prior to applying for secondary certification. The credits for this course work are not included in the M.Ed. degree.

Students in the secondary teacher-preparation program are expected to have completed almost all their content area coursework prior to going out to student teach. This is important because student teachers need to have mastery of their content in order to fulfill their responsibilities to their students and to derive maximum benefit from the student teaching experience.

Distribution of coursework across undergraduate and graduate study:
- Sophomore Year (3 credit hours)
- Junior Year (6 credit hours)
- Senior Year (6 credit hours)

College of Education - Summer (6 credits)
College of Education - Fall (9 credits)
College of Education - Spring (3-6 credits)

Students in this program unable to accrue enough credits outside their undergraduate degree programs may need to take additional credits after beginning graduate study in order to reach the 33-credit minimum.

Students in this program who wish to obtain the Master of Arts (M.A.) degree rather than the M.Ed. degree may petition to change to that degree after admission to graduate study. The M.A. degree requires 42 credits instead of 33 credits and has specific content-area expertise requirements. See the M.A. degree description for its requirements.

Five-Year Bachelor's Plus Master of Education in Elementary Education and PreK-4 Certification
The College of Education offers a five-year degree program that is designed to allow students to earn both a bachelor's degree and a master's degree in five years instead of the traditional six. The combined degree program leads to either a B.A. or B.S. degree in an academic discipline from the College of Arts and Sciences, the P.C. Rossin College of Engineering and Applied Sciences, or the College of Business, and an M.Ed. degree in Elementary Education. In addition, students also earn eligibility for an Instructional I teaching certificate from the Pennsylvania Department of Education (PDE) in grades PreK-4.

PROGRAM OF STUDY FOR PREK-4 CERTIFICATION:
B.A. or B.S. plus Master of Education (M.Ed.) in Elementary Education and PA Certification eligibility. This 42-credit (minimum) master’s program prepares students for certification as PreK-4 teachers. Students complete coursework in three categories:

Core Course Work (21 credit hours)
- SPED 332 Education and Inclusion of Individuals with Special Needs in K-12 3
- TLT 380 Child Development and Cognition 3
- TLT 404 Cultural and Linguistic Diversity 3
- TLT 405 Principles and Applications of K-12 Assessment 3
- TLT 407 Instructional Design for K-12 Classrooms 3
and Pennsylvania teacher certification eligibility. In addition to meeting one of the 8 subject areas below:

1. Biology 7-12
2. Chemistry 7-12
3. Earth and Space Science 7-12
4. English 7-12
5. General Science 7-12
6. Mathematics 7-12
7. Physics 7-12
8. Social Studies 7-12

**Program of Study:**

B.A. or B.S. plus Master of Education (M.Ed., 33 credits minimum) and Pennsylvania teacher certification eligibility. In addition to meeting the requirements for the bachelor's degree, students must satisfy the Pennsylvania Department of Education guidelines for demonstrated content-area competence (see below).

Students complete coursework in three categories:

### Core Coursework (15 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 332</td>
<td>Education and Inclusion of Individuals with Special Needs in K-12</td>
</tr>
<tr>
<td>TLT 404</td>
<td>Cultural and Linguistic Diversity</td>
</tr>
<tr>
<td>TLT 405</td>
<td>Principles and Applications of K-12 Assessment</td>
</tr>
<tr>
<td>TLT 407</td>
<td>Instructional Design for K-12 Classrooms</td>
</tr>
<tr>
<td>TLT 409</td>
<td>K-12 Classroom Environment and Management</td>
</tr>
</tbody>
</table>

### Development of Professional Skills (12 credits)

Content-area teaching methods course with approval of adviser (one of the following):

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 431</td>
<td>Social Studies in Middle Level and High School Education</td>
</tr>
<tr>
<td>TLT 434</td>
<td>English in Middle Level and High School Education</td>
</tr>
<tr>
<td>TLT 436</td>
<td>Science in Middle Level and High School Education</td>
</tr>
<tr>
<td>TLT 438</td>
<td>Mathematics in Middle Level and High School Education</td>
</tr>
<tr>
<td>Plus:</td>
<td></td>
</tr>
<tr>
<td>TLT 432</td>
<td>Reading and Critical Thinking in Middle Level and High School Education</td>
</tr>
<tr>
<td>SPED 465</td>
<td>Advanced Inclusionary Practices in K-12</td>
</tr>
<tr>
<td>TLT XXX</td>
<td>Elective with adviser approval</td>
</tr>
</tbody>
</table>

### Extended Field Experiences (6-9 credits)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 440</td>
<td>Pre-professional Seminar</td>
</tr>
<tr>
<td>TLT 444</td>
<td>General Education Student Teaching and Seminar</td>
</tr>
</tbody>
</table>

In order to be eligible for secondary certification, by the time a student finishes the program he or she must have demonstrated competence in the core content areas for that certification. At time of acceptance, each student will be informed of any additional content-area coursework he or she will be required to complete in order to demonstrate competence in the PreK-4 core content areas. The student is responsible for completing this coursework prior to applying for PreK-4 certification. The credits for this coursework are not included in the master's degree.

Distribution of coursework across undergraduate and graduate study:

- **Sophomore Year**: (3 credit hours)
- **Junior Year**: (3 credit hours)
- **Senior Year**: (12 credit hours)

College of Education - Summer (12 credits)

College of Education - Fall (9 credits)

College of Education - Spring (3-6 credits)

Students in the 5-year program will take 18 credits pre-bachelor's and an additional 27 credits post-bachelor's. However, the University requires that master's degrees carry at least 30 credits minimum. This means students in the 5-year program must have at least 3 credits "left over" from their bachelor's program to move across to the College of Education to put toward their master's degree.

Five-Year Bachelor's Plus Master of Education in Secondary Education and Teacher Certification

The College of Education offers a five-year degree program that is designed to allow students to earn both a bachelor's degree and a master's degree in five years instead of the traditional six.

The combined degree program leads to (1) a B.A./B.S. degree in an academic discipline from the College of Arts and Sciences, the P.C. Rossin College of Engineering and Applied Sciences, or the College of Business, and (2) an M.Ed. degree in Secondary Education. In addition, students also earn eligibility for Instructional I teacher certification from the Pennsylvania Department of Education (PDE) in one of the 8 subject areas below:

- Biology 7-12
- Chemistry 7-12
- Earth and Space Science 7-12
- English 7-12
- General Science 7-12
- Mathematics 7-12
- Physics 7-12
- Social Studies 7-12

**Program of Study:**

B.A. or B.S. plus Master of Education (M.Ed., 33 credits minimum) and Pennsylvania teacher certification eligibility. In addition to meeting...
Students in this program unable to accrue enough credits outside their undergraduate degree programs may need to take additional credits after beginning graduate study in order to reach the 33-credit minimum.

Students in this program who wish to obtain the Master of Arts (M.A.) degree rather than the M.Ed. degree may petition to change to that degree after admission to graduate study. The M.A. degree requires 42 credits instead of 33 credits and has specific content-area expertise requirements. See the M.A. degree description for its requirements.

**Master of Arts in Secondary Education and Teacher Certification**

This 42 credit (minimum) program of study prepares students for Pennsylvania Level I certification as secondary content-area teachers in one of 8 subject areas below and leads to eligibility for a master’s degree in secondary education:

- Biology 7-12
- Chemistry 7-12
- Earth and Space Science 7-12
- English 7-12
- General Science 7-12
- Mathematics 7-12
- Physics 7-12
- Social Studies 7-12

Students complete coursework in four categories:

**Core Coursework (15 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 332</td>
<td>Education and Inclusion of Individuals with Special Needs in K-12</td>
<td>3</td>
</tr>
<tr>
<td>TLT 404</td>
<td>Cultural and Linguistic Diversity</td>
<td>3</td>
</tr>
<tr>
<td>TLT 405</td>
<td>Principles and Applications of K-12 Assessment</td>
<td>3</td>
</tr>
<tr>
<td>TLT 407</td>
<td>Instructional Design for K-12 Classrooms</td>
<td>3</td>
</tr>
<tr>
<td>TLT 409</td>
<td>K-12 Classroom Environment and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Development of Professional Skills (12 credit hours)**

Content-area teaching methods course with approval of your adviser (one of the following):

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 431</td>
<td>Social Studies in Middle Level and High School Education</td>
<td>3</td>
</tr>
<tr>
<td>TLT 434</td>
<td>English in Middle Level and High School Education</td>
<td>3</td>
</tr>
<tr>
<td>TLT 436</td>
<td>Science in Middle Level and High School Education</td>
<td>3</td>
</tr>
<tr>
<td>TLT 438</td>
<td>Mathematics in Middle Level and High School Education</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 432</td>
<td>Reading and Critical Thinking in Middle Level and High School Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 465</td>
<td>Advanced Inclusionary Practices in K-12</td>
<td>3</td>
</tr>
</tbody>
</table>

TLT XXX: Elective with advisor approval. [These credits may be used for content-area course.]

**Extended Field Experiences (6 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 440</td>
<td>Pre-professional Seminar</td>
<td>3</td>
</tr>
<tr>
<td>TLT 444</td>
<td>General Education Student Teaching and Seminar</td>
<td>1-6</td>
</tr>
</tbody>
</table>

**Content Area Knowledge (12 credit hours)**

Twelve credits are required for the M.A. degree and these courses must be taken from Lehigh departments outside the College of Education at the 200 level and above.

In order to be eligible for secondary certification, by the time a student finishes the program he or she must have demonstrated competence in the subject matter are of that certification. Each student upon admission meets with the content-area specialist in the field in which that student seeks secondary certification. The content-area specialist, who is a faculty member in the College of Arts and Sciences, reviews the student’s transcripts and compares that student’s coursework with the content-area guide sheet approved by the Pennsylvania Department of Education (PDE). Following this audit, the content-area specialist will identify what additional coursework in the content-area is needed, if any. The student is responsible for completing this coursework prior to applying for secondary certification. For the MA degree, at least 12 credits of content area courses must be taken at Lehigh at the 200 level or higher.

Students in the secondary teacher-preparation program are expected to have completed almost all their content area coursework prior to going out to student teach. This is important because student teachers need to have mastery of their content in order to fulfill their responsibilities to their students and to derive maximum benefit from the student teaching experience.

**Master of Education in Elementary Education and PreK-4 Teacher Certification**

This 42-credit (minimum) program prepares students for Pennsylvania Level I certification as PreK-4 teachers and leads to the awarding of a master’s degree in Elementary Education. Students complete coursework in three categories:

**Core Course Work (21 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 332</td>
<td>Education and Inclusion of Individuals with Special Needs in K-12</td>
<td>3</td>
</tr>
<tr>
<td>TLT 380</td>
<td>Child Development and Cognition</td>
<td>3</td>
</tr>
<tr>
<td>TLT 404</td>
<td>Cultural and Linguistic Diversity</td>
<td>3</td>
</tr>
<tr>
<td>TLT 405</td>
<td>Principles and Applications of K-12 Assessment</td>
<td>3</td>
</tr>
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<td>Instructional Design for K-12 Classrooms</td>
<td>3</td>
</tr>
<tr>
<td>TLT 409</td>
<td>K-12 Classroom Environment and Management</td>
<td>3</td>
</tr>
<tr>
<td>TLT 411</td>
<td>Early Childhood Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Development of Professional Skills (18 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 412</td>
<td>Social Studies in PreK through 4th Grade</td>
<td>3</td>
</tr>
<tr>
<td>TLT 420</td>
<td>Literacy in PreK through 4th Grade: Reading and Its Foundations</td>
<td>3</td>
</tr>
<tr>
<td>TLT 422</td>
<td>Literacy in PreK through 4th Grade: Writing and Its Foundations</td>
<td>3</td>
</tr>
<tr>
<td>TLT 426</td>
<td>Science in PreK through 4th Grade</td>
<td>3</td>
</tr>
<tr>
<td>TLT 428</td>
<td>Mathematics and Numeracy in PreK through 4th Grade</td>
<td>3</td>
</tr>
<tr>
<td>SPED 465</td>
<td>Advanced Inclusionary Practices in K-12</td>
<td>3</td>
</tr>
</tbody>
</table>

**Extended Field Experience (3 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLT 444</td>
<td>General Education Student Teaching and Seminar</td>
<td>1-6</td>
</tr>
</tbody>
</table>

Thirty (30) credits minimum is required for the master's degree. In order to be eligible for PreK-4 certification, by the time a student finishes the program he or she must have demonstrated competence in the core content areas for that certification (English, mathematics, science, social studies). At time of acceptance, each student will be informed of any additional content-area coursework he or she will be required to complete in order to demonstrate competence in the PreK-4 core content areas (language arts, mathematics, science and social studies). The student is responsible for completing this coursework prior to applying for PreK-4 certification. The credits for this coursework are not included in the master’s degree.

**Master of Education in Secondary Education and Teacher Certification**

This 33 credit (minimum) program of study prepares students for Pennsylvania Level I certification as secondary content-area teachers
in one of the subject areas (below) and leads to eligibility for a master’s degree in secondary education:

- Biology 7-12
- Chemistry 7-12
- Earth and Space Science 7-12
- English 7-12
- General Science 7-12
- Mathematics 7-12
- Physics 7-12
- Social Studies 7-12

Students complete coursework in three categories:

**Core Coursework (15 credit hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 332</td>
<td>Education and Inclusion of Individuals with Special Needs in K-12</td>
<td>3</td>
</tr>
<tr>
<td>TLT 404</td>
<td>Cultural and Linguistic Diversity</td>
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<td>TLT 405</td>
<td>Principles and Applications of K-12 Assessment</td>
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<tr>
<td>TLT 409</td>
<td>K-12 Classroom Environment and Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Developement of Professional Skills (12 credit hours)**

Content-area teaching methods course with approval of your adviser (one of the following):

- TLT 431 Social Studies in Middle Level and High School Education 3
- TLT 434 English in Middle Level and High School Education 3
- TLT 436 Science in Middle Level and High School Education 3
- TLT 438 Mathematics in Middle Level and High School Education 3

**Extended Field Experiences (6 credit hours)**

- TLT 440 Pre-professional Seminar 3
- TLT 444 General Education Student Teaching and Seminar 1-6

In order to be eligible for secondary certification, by the time a student finishes the program he or she must have demonstrated competence in the subject matter of that certification. Each student upon admission meets with the content-area specialist in the field in which that student seeks secondary certification. The content-area specialist, who is a faculty member in the College of Arts and Sciences, reviews the student’s transcripts and compares that student’s coursework with the content-area guide sheet approved by the Pennsylvania Department of Education (PDE). Following this audit, the content-area specialist will identify what additional coursework in the content-area is needed, if any. The student is responsible for completing this coursework prior to applying for secondary certification. The credits for this course work are not included in the M.Ed. degree.

Students in the secondary teacher-preparation program are expected to have completed almost all their content area coursework prior to going out to student teach. This is important because student teachers need to have mastery of their content in order to fulfill their responsibilities to their students and to derive maximum benefit from the student teaching experience.

**Master of Education in Special Education and Special Education PreK-8 Additional Certification**

This 32-credit (minimum) master’s program is designed for graduate students seeking Pennsylvania additional certification as Special Education PreK-8 teachers.

Students take coursework in four categories:

**Core Course Work (18 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 404</td>
<td>Cultural and Linguistic Diversity</td>
<td>3</td>
</tr>
<tr>
<td>SPED 418</td>
<td>Alternative Curricular Approaches</td>
<td>3</td>
</tr>
<tr>
<td>SPED 429</td>
<td>Professional Seminar</td>
<td>3</td>
</tr>
<tr>
<td>SPED 432</td>
<td>Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>SPED 452</td>
<td>Assessment in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 465</td>
<td>Advanced Inclusionary Practices in K-12</td>
<td>3</td>
</tr>
</tbody>
</table>

**Course Work in the Area of Specialization (6 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 411</td>
<td>Early Childhood Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 419</td>
<td>Intensive Intervention in Reading</td>
<td>3</td>
</tr>
</tbody>
</table>

**Education Electives (6 credits with approval of the adviser)**

**Intensive Teaching Experience (2 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPED 420</td>
<td>Field Experience: Special Education Certification</td>
<td>1-3</td>
</tr>
</tbody>
</table>

**Master of Education in Special Education and Special Education PreK-8 Dual Certification**

This 30 credit (minimum) master’s program is designed for students seeking Pennsylvania certification as Special Education PreK-8 teachers (with dual certification eligibility).

**Students complete the following coursework:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SPED 332</td>
<td>Education and Inclusion of Individuals with Special Needs in K-12</td>
<td>3</td>
</tr>
<tr>
<td>SPED 404</td>
<td>Cultural and Linguistic Diversity</td>
<td>3</td>
</tr>
<tr>
<td>SPED 405</td>
<td>Principles and Applications of K-12 Assessment</td>
<td>3</td>
</tr>
<tr>
<td>SPED 409</td>
<td>K-12 Classroom Environment and Management</td>
<td>3</td>
</tr>
<tr>
<td>SPED 411</td>
<td>Early Childhood Education</td>
<td>3</td>
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<td>SPED 419</td>
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<td>3</td>
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<tr>
<td>SPED 429</td>
<td>Professional Seminar</td>
<td>3</td>
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<tr>
<td>SPED 432</td>
<td>Positive Behavior Support</td>
<td>3</td>
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<tr>
<td>SPED 452</td>
<td>Assessment in Special Education</td>
<td>3</td>
</tr>
<tr>
<td>SPED 465</td>
<td>Advanced Inclusionary Practices in K-12</td>
<td>3</td>
</tr>
</tbody>
</table>

**NOTE:** Students seeking dual certification in general education PreK-4 (initial certification) and Special Education PreK-8 (additional certification) must complete an additional eight courses (24 credits) that are not listed above [including SPED 442, General Education and Special Education Student Teaching and Seminar]. These courses/credits are required to be eligible for dual certification but are not part of the master’s program in Special Education.

**Master of Education in Special Education and Special Education 7-12 Additional Certification**

This 32-credit (minimum) master’s program is designed for graduate students seeking Pennsylvania additional certification as Special Education 7-12 teachers.

Students take coursework in four categories:

**Core Course Work (18 credits)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>SPED 404</td>
<td>Cultural and Linguistic Diversity</td>
<td>3</td>
</tr>
<tr>
<td>SPED 418</td>
<td>Alternative Curricular Approaches</td>
<td>3</td>
</tr>
<tr>
<td>SPED 429</td>
<td>Professional Seminar</td>
<td>3</td>
</tr>
<tr>
<td>SPED 432</td>
<td>Positive Behavior Support</td>
<td>3</td>
</tr>
<tr>
<td>SPED 452</td>
<td>Assessment in Special Education</td>
<td>3</td>
</tr>
</tbody>
</table>
SPED 465 Advanced Inclusionary Practices in K-12 3

Course Work in the Area of Specialization (6 credits)
SPED 421 Intensive Intervention in Mathematics and Content Area Literacy 3
SPED 423 Supporting Transition for Individuals with Disabilities 3

Education Electives (6 credits, with approval of the adviser)

Intensive Teaching Experience (2 credits)
SPED 420 Field Experience: Special Education Certification 1-3

Master of Education in Special Education and Special Education 7-12 Dual Certification
This 30 credit (minimum) master’s program is designed for graduate students seeking Pennsylvania certification as Special Education 7-12 teachers (with dual certification eligibility).

Students complete the following coursework:
SPED 332 Education and Inclusion of Individuals with Special Needs in K-12 3
SPED 404 Cultural and Linguistic Diversity 3
SPED 405 Principles and Applications of K-12 Assessment 3
SPED 409 K-12 Classroom Environment and Management 3
SPED 418 Alternative Curricular Approaches 3
SPED 421 Intensive Intervention in Mathematics and Content Area Literacy 3
SPED 423 Supporting Transition for Individuals with Disabilities 3
SPED 432 Positive Behavior Support 3
SPED 452 Assessment in Special Education 3
SPED 465 Advanced Inclusionary Practices in K-12 3

NOTE: Students seeking dual certification in general education 7-12 (initial certification) and Special Education 7-12 (additional certification) must complete 5 courses (15 credits) that are not listed above [including SPED 442, General Education and Special Education Student Teaching and Seminar]. These courses/credits are required to be eligible for dual certification but are not part of the master’s program in Special Education.

Special Education Courses
SPED 330 Special Topics in Special Education 1-3 Credits
Current issues in the education of individuals with special needs. Titles vary.
Repeat Status: Course may be repeated.

SPED 332 Education and Inclusion of Individuals with Special Needs in K-12 3 Credits
Overview of social, developmental, legal, and educational issues and practices related to the special education of individuals with disabilities. Covers social, environmental, and physiological etiology; development; identification; learning characteristics; and needs of individuals identified for special education. Emphasizes meeting diverse needs of students in general education classrooms through evidence-based practices and adaptations matched to learner needs. Addresses legal rights of students and their families, as well as legal responsibilities of teachers as required by IDEA and other related special legislation.

SPED 338 Emotional and Behavioral Disorders of Children 3 Credits
Definition, classification, etiology, treatment, and historical perspective of children and adolescent disorders.

SPED 402 (SCHP 402) Applied Behavior Analysis 3 Credits
Theory and application of behavior modification methods in classroom and clinical settings. Topics include behavior analysis, outcome research, task utilization, and single case research.

SPED 404 (TLT 404) Cultural and Linguistic Diversity 3 Credits
All teachers need to gain an understanding of how to support culturally and linguistically diverse students, particularly English learners (ELs). This course explores the systemic disadvantage and bias ELs experience in the school system. It will offer best practices and concrete strategies that teachers can implement to challenge systemic disadvantages ELs face in classrooms and schools. With the understanding that students have complex identities and needs, throughout the course, the heterogeneity of culturally and linguistically diverse students will be emphasized.

SPED 405 (TLT 405) Principles and Applications of K-12 Assessment 3 Credits
Assessment applied to learning in classroom learning environments, including universal screening and progress monitoring. Discusses assessment approaches, ways to implement assessment, and use of assessment tools to monitor all students, including ELL and students with disabilities. Use of data-management and grading systems. Addresses diagnostic assessments for student placement and analysis of assessment data to tailor instruction to diverse student needs. Emphasis on research-based practices of assessment to inform instructional decision-making consistent with the RtI framework.

SPED 409 (TLT 409) K-12 Classroom Environment and Management 3 Credits
Designing inclusive classroom environments that maximize learning. Emphasis on fostering a positive learning environment using evidence-based classroom management strategies for all learners, including students with disabilities and those from culturally and linguistically diverse backgrounds. Addresses function-based thinking to understand behavior problems and identify appropriate interventions. Includes discussion of manifestation of both internalizing and externalizing problems and related interventions.

SPED 410 Behavior Analysts: Ethics and Professional Conduct 3 Credits
This course is designed to provide students an in-depth review of the BACB Professional and Ethics Compliance Code for Behavior Analysts and other relevant content and readings that further support student understanding of the topic area. Class discussions, review of case studies, and student-lead small group problem-solving activities will enable students to apply ethical and professional standards to their work, further promoting quality interactions between the children and adults they serve, families, teachers, and others stakeholders.

SPED 411 (TLT 411) Early Childhood Education 3 Credits
Introduction to development of early childhood education in the U.S. Emphasizes evidence-based methods and materials to assist young children in the learning process, including arrangement of indoor/outdoor space, developmentally appropriate practices, and the design of instruction to foster young children’s emotional, social, language, cognitive, physical, and creative development. Includes embedded instruction and adaptations for students with identified disabilities, children at risk for developing disabilities, and children with culturally and linguistically diverse backgrounds, and family collaboration within the instructional planning process.

SPED 416 Autism Spectrum Disorders and Evidence-Based Practices 3 Credits
This course provides an overview of Autism Spectrum Disorders (ASD) and an introduction to the evidence-based practices (EBPs) for practitioners, based on recently published and publicly available reports and other supporting materials. Assignments help students translate EBPs, grounded in Applied Behavior Analysis (ABA), into concrete goals and practices that have a meaningful impact on the day-to-day functioning of students with ASD.
SPED 418 Alternative Curricular Approaches 3 Credits
Curricular and instructional methods for students with pervasive support needs (e.g., intellectual disabilities, autism) who follow an alternative or modified curriculum. Methods for developing an individualized curriculum, embedding instruction and accessing the general education curriculum, systematic instruction, and instruction for full participation in school, home, and community settings are covered. Strategies for facilitating emergent social and communication skills, teaching augmentative and alternative communication, and use of assistive technologies to enhance self-directed learning are included.

SPED 419 Intensive Intervention in Reading 3 Credits
Methods course designed to address the needs of students with disabilities to increase knowledge of instruction of comprehensive pre-literacy and literacy skills and their components. Additionally, pre-reading, reading, language arts, mathematics, and content area reading literacy skills in primary and elementary settings will be addressed. Emphasis on instructional planning, differentiated instructional strategies, appropriate assessments modifications, and adaptations needed for use with individuals with disabilities through a conceptual foundation in the components of reading and the integration of research validated interventions.

SPED 420 Field Experience: Special Education Certification 1-3 Credits
Intensive practice in the application of principles of teaching in a supervised experience in the schools for students who already hold another content area certification (e.g., elementary, middle school, secondary). Consent of the program.

SPED 421 Intensive Intervention in Mathematics and Content Area Literacy 3 Credits
Methods course designed to increase knowledge of core components of reading in secondary settings, language arts, mathematics, and content area literacy skills for students with disabilities and those who are culturally and/or linguistically diverse. Emphasis on instructional planning, differentiated instructional strategies, appropriate assessments modifications, and adaptations needed for use with individuals with disabilities through a conceptual foundation in the components of reading and the integration of research validated interventions.

SPED 423 Supporting Transition for Individuals with Disabilities 3 Credits
Best instructional practices for preparing students for the early childhood transition into special education and the transition to post-school adult life: employment, post-secondary education, and community participation in inclusive settings. Topics include transition planning, person-centered and work-based assessments, family and interagency collaboration, innovative post-school and in-school transition services, and self-determination. Evidence-based practices to promote positive student outcomes are emphasized.

SPED 425 Applied Behavior Analysis Practicum 1-6 Credits
This practicum is designed to shape supervisee’s clinical and behavioral skills as well as his/her professional, ethical, and collegial behavior. This experience embeds the concepts, principles, methods, and applications of behavior analysis learned in the course sequence and applies them to educational, clinical, and community/home settings.
Repeat Status: Course may be repeated.

SPED 427 Contemporary Service Delivery Models 3 Credits
This course is to provide students with knowledge and skills related to contemporary academic and behavioral service delivery models such as multi-tier systems of supports (MTSS). Relevant research literature will be explored to promote critical reflection on the models. Students will gain knowledge and skills in the following areas: (1) core components of service delivery models; (2) implementation of the services delivery model within k-12 schools; and (3) legal, ethical, and administrative issues related to service delivery implementation.

SPED 429 Professional Seminar 3 Credits
Master’s seminar on current issues in the area of special education and research design. Must have 18 graduate credits in special education.

SPED 430 Advanced Seminar in Special Education 3 Credits
Advanced issues relating to the field of special education. Titles will vary.
Repeat Status: Course may be repeated.

SPED 432 Positive Behavior Support 3 Credits
Addresses tiered models of prevention and support. Includes design of comprehensive, multi-component behavior support plans for individuals with a variety of disabilities who engage in problem behavior. Emphasis on functional assessment and evidence-based interventions. Assessment focuses on the link between curriculum, academic performance, and behavior problems. Addresses mental health challenges, the role of various school-based professionals, and collaboration across agencies. Promotes consideration of diverse populations for understanding behavioral differences. Describes strategies for ongoing monitoring and maintenance of behavior reductions.

SPED 434 Applied Research Practicum 1-3 Credits
Designing and conducting research projects in applied settings.

SPED 440 Early Academic Intervention 3 Credits
Explores the potential effectiveness of interventions to prevent academic failure of children at risk for learning difficulties. Emphasis on research-based interventions in the areas of beginning reading, language and vocabulary, writing and spelling, awareness of print and exposure to print, and mathematics (number sense).

SPED 442 (TLT 442) General Education and Special Education Student Teaching and Seminar 1-6 Credits
Intensive practice in the application of principles of teaching for both general and special education settings in a supervised internship in the schools (for dual certification). Regular meetings among student teachers for critical analysis and discussion of classroom instructional practices, as illustrated by the student teachers’ experiences in the schools. Practical mentoring on professionalism, applying differentiated instructional models in real-world setting, and aligning instruction with standards. Consent of program director required.

SPED 443 Special Education Student Teaching and Seminar 3 Credits
Intensive practice in the application of principles of teaching for special education settings in a supervised internship in the schools. Regular meetings among student teachers for critical analysis and discussion of classroom instructional practices, as illustrated by the student teachers’ experiences in the schools. Practical mentoring on professionalism, applying differentiated instructional models in real-world settings, and aligning instruction with standards. Consent of program director required.

SPED 452 Assessment in Special Education 3 Credits
Identification, administration and interpretation of a variety of assessments used for planning and to determine special education eligibility and to assess social, emotional, behavioral, and academic functioning. Discusses strengths and limitations of various models and assessment, both formal and informal, instruments used to evaluate the need for special education. Describes strategies to enhance the relationship between assessment and service delivery. Addresses assessment practices to identify curricular needs consistent with the RtI framework.

SPED 465 Advanced Inclusionary Practices in K-12 3 Credits
Advanced techniques grounded in current research-based methods and best practice for educating and assessing students with disabilities, students from diverse backgrounds, and English language learners using a standards-aligned system. Accommodations, modifications, planning for physical and instructional inclusion through embedded strategic instruction, adaptations, and curriculum overlapping. Addresses decision hierarchies for level of instructional adaptation and social inclusion methods through social facilitation techniques. Explores critical factors in developing, implementing, and modifying curriculum using evidence-based practices. Explores collaborative co-planning and co-teaching models.
Prerequisites: SPED 332
SPED 482 Practicum in University Teaching: Special Education 1-4 Credits
Mentored and guided co-teaching focused on the design, organization, pedagogy and assessment of university courses in Special Education. Students in this course will work with a faculty member to apply best practices in university teaching with feedback while co-teaching students in a course in the College of Education. Students taking the course must meet the college standards for participation and be approved by the program director and department chair. May be repeated for credit.
Repeat Status: Course may be repeated.

SPED 490 Doctoral Seminar in Special Education 3 Credits
Advanced knowledge of issues and research in the education of individuals with special needs. Topics will vary. Must be admitted for doctoral studies.
Repeat Status: Course may be repeated.

SPED 499 Dissertation 1-15 Credits
Repeat Status: Course may be repeated.

Teaching Learning Technology Courses

TLT 367 (ES 367) Environmental Education 3 Credits
Introductory environmental education course designed to prepare students to implement environmental education opportunities in formal and non-formal education settings. Topics include history and philosophy of environmental education, environmental laws and regulations, GIS, environmental issues and decision making, curriculum integration and environmental education teaching methodologies. This is a Web enhanced containing both online and fieldwork components.

TLT 368 (ES 368) Teaching and Learning with Geospatial Tools 3 Credits
Exploration of geospatial tools, including but not limited to global positioning systems (GPS), geographic information systems (GIS), and related visualization tools (e.g. Google Earth). Application of these tools and techniques to instructional settings, including appropriate pedagogy and assessment.

TLT 380 Child Development and Cognition 3 Credits
Introduction to physical, motor, perceptual, cognitive, language, emotional, social, and gender development of young children and adolescents. Developmental history, theories, and research, as well as the effect of culture, family, peers, media, and schooling on the individual and groups. Students investigate typical and atypical development and explore the implications of individual differences for teaching and learning, with an emphasis on evidence-based instructional practices designed to optimize the growth and development of all learners. Explores mental health issues and at-risk students.

TLT 391 Workshops 1-3 Credits
Cooperative study of current educational problems. Provides elementary, secondary, and special education teachers an opportunity to work at their own teaching levels and in their own fields. Limited to six credits during a summer session but the student may register for more than one workshop provided there is no duplication in subject matter.
Repeat Status: Course may be repeated.

TLT 394 Special Topics in Education: 1-3 Credits
Examination of a topic of research or professional interest in education. Subtitle will vary. May be repeated for credit as subtitle varies.
Repeat Status: Course may be repeated.

TLT 401 Overview of Teaching and Learning 3 Credits
Foundations and key concepts in learning and instructional theory. Cognition and brain-based research with a focus on innovations in teaching and learning.

TLT 402 Reading and Writing for Research Publication 3 Credits
Using literature to build persuasive written arguments. Searching and identifying promising sources, distilling research findings, synthesizing literature to support an argument, and organizing written materials to enhance persuasiveness. Suited to those writing qualifying projects, dissertation proposals, dissertations, funding proposals, conference proposals, and journal articles.

TLT 403 Introduction to Instructional Design 3 Credits
Social, cognitive, and environmental factors in designing for teaching and learning. Systems theory applied to learning settings. Special emphasis on motivational theories and technological affordances.

TLT 404 (SPED 404) Cultural and Linguistic Diversity 3 Credits
All teachers need to gain an understanding of how to support culturally and linguistically diverse students, particularly English learners (ELs). This course explores the systemic disadvantage and bias ELs experience in the school system. It will offer best practices and concrete strategies that teachers can implement to challenge systemic disadvantages ELs face in classrooms and schools. With the understanding that students have complex identities and needs, throughout the course, the heterogeneity of culturally and linguistically diverse students will be emphasized.

TLT 405 (SPED 405) Principles and Applications of K-12 Assessment 3 Credits
Assessment applied to learning in classroom learning environments, including universal screening and progress monitoring. Discusses assessment approaches, ways to implement assessment, and use of assessment tools to monitor all students, including ELL and students with disabilities. Use of data-management and grading systems. Addresses diagnostic assessments for student placement and analysis of assessment data to tailor instruction to diverse student needs. Emphasis on research-based practices of assessment to inform instructional decision-making consistent with the RtI framework.

TLT 407 Instructional Design for K-12 Classrooms 3 Credits
Introduces the systematic design of instruction following the Response to Intervention (RtI) and Universal Design for Learning models. Explores theories of learning and instructional applications as a part of technology-based and standards-aligned classroom education grounded in the use of a quality, research-based core curriculum and effective instructional practices to meet the needs of all learners. Addresses appropriate use of instructional technologies for universal learning. Students will plan, design, and develop student-centered, standards-aligned, technology-supported instruction and appropriate learner assessments.

TLT 409 (SPED 409) K-12 Classroom Environment and Management 3 Credits
Designing inclusive classroom environments that maximize learning. Emphasis on fostering a positive learning environment using evidence-based classroom management strategies for all learners, including students with disabilities and those from culturally and linguistically diverse backgrounds. Addresses function-based thinking to understand behavior problems and identify appropriate interventions. Includes discussion of manifestation of both internalizing and externalizing problems and related interventions.

TLT 410 The Writing Process 3 Credits
Developmental characteristics of children’s writing and relationships among writing, spelling, and reading. Predictors of writing achievement, teaching strategies and activities, and evaluation schemes will be emphasized, K-12.

TLT 411 (SPED 411) Early Childhood Education 3 Credits
Introduction to development of early childhood education in the U.S. Emphasizes evidence-based methods and materials to assist young children in the learning process, including arrangement of indoor/outdoor space, developmentally appropriate practices, and the design of instruction to foster young children’s emotional, social, language, cognitive, physical, and creative development. Includes embedded instruction and adaptations for students with identified disabilities, children at risk for developing disabilities, and children with culturally and linguistically diverse backgrounds, and family collaboration within the instructional planning process.
TLT 412 Social Studies in PreK through 4th Grade 3 Credits
Overview of Pennsylvania’s PreK-4 Standards for social studies, including: Pennsylvania history, United States history, economics, civics and government, citizenship, political science/government, and geography. Development, implementation and evidence-based assessment of preK-grade 4 social studies curricula. Effective teaching techniques such as lesson planning, inclusive practices, integrating instructional technologies into instruction, reflecting on teaching, and the latest research-based teaching and assessment methods. Emphasis on alignment of instruction with standards.

TLT 420 Literacy in PreK through 4th Grade: Reading and Its Foundations 3 Credits
Knowledge of the theories, methods, and materials that can be used to teach reading and early reading skills in PreK-4th grade. Understanding of the skills of successful readers. Evidence-based practices in reading instruction and data-based decision-making to teach reading to all students, including students with disabilities and English learners. Strategies to partner with caregivers to enhance reading an early reading skills.

TLT 422 Literacy in PreK through 4th Grade: Writing and Its Foundations 3 Credits
Knowledge of the theories, methods, and materials that can be used to teach writing and foundational skills in PreK-4. Understanding of the developmental aspects of writing and the skills of successful writers. Evidence-based practices in writing instruction and data-based decision-making to teach writing to all students, including students with disabilities and English learners.

TLT 424 Children’s Literature in Elementary Education 3 Credits
Role of literature in the instructional program of the elementary schools. Use of trade books for individualized instruction in reading, language arts, mathematics, science, and social studies.

TLT 426 Science in PreK through 4th Grade 3 Credits
Overview of inquiry-based activities and investigations to promote science learning in preK-grade 4 classrooms. Emphasis on Pennsylvania’s PreK-4 Standards for Science and Technology and Environment and Ecology standards and aligning instruction with standards. Activities include planning effective lessons, trying out new methods of teaching, reflective practice, inclusionary methods, and integrating instructional technologies into science learning. Evidence-based assessment types are highlighted within instructional contexts.

TLT 428 Mathematics and Numeracy in PreK through 4th Grade 3 Credits
Trends, theories, activities and manipulative materials for teaching early numeracy and elementary mathematics. Pre-school development and in-school skills and concepts, including sets, systems of numeration, experience with numbers, number operations and concepts, numerals, measurement, early algebra, and elements of geometry. Implications of developmental differences and early non-school experiences on learner readiness and skills. Helping parents support their children’s mathematics conceptual development. Research-based practices and inclusionary approaches to teach mathematics to learners from a variety of backgrounds and across ability levels.

TLT 431 Social Studies in Middle Level and High School Education 3 Credits
Middle and high school curriculum, content, teaching strategies, and instructional materials for the social studies. Emphasis on organizing content, using appropriate methods, testing and evaluation, and appropriate integration of technology. Overview of Pennsylvania’s 4-8 and 8-12 standards for social studies and related standards from the National Council for the Social Studies and other national organizations. Explores relevant research, courses of study, textbooks, and teacher-made materials. Addresses inclusive evidence-based and standards-aligned instructional approaches and techniques, including co-teaching.

TLT 432 Reading and Critical Thinking in Middle Level and High School Education 3 Credits
Development of reading in the secondary content areas (English/language arts, mathematics, science, social studies). Highlights effective teaching strategies in critical areas, such as higher order reading and study skills. Addresses analysis of evidence based methods and current research for improving the reading development and analytical skills of all students.

TLT 434 English in Middle Level and High School Education 3 Credits
Curricula, philosophy, methods, strategies, and materials for the teaching of middle and high school English. Literature, genres, and the nature of text and text differences. Critical analysis and drawing inferences from narrative text and poetry. Techniques for teaching and enhancing writing in various styles. Applications of technology and assessment principles. Addresses inclusive evidence-based and standards-aligned instructional approaches and techniques, including co-teaching.

TLT 436 Science in Middle Level and High School Education 3 Credits
Overview of inquiry-based activities and investigations to promote science learning in secondary science classrooms. Emphasis on aligning instruction with Pennsylvania’s Standards for Science and Technology and Environment and Ecology standards. Activities include planning effective lessons, trying out new methods of teaching, inclusionary methods, reflective practice, and integrating instructional technologies into science learning. Evidence-based assessment types highlighted within instructional contexts.

TLT 438 Mathematics in Middle Level and High School Education 3 Credits
Standards-based and technology-intensive curricula, instructional activities, and manipulative aids for mathematics in middle level and high schools. This course models and explores an investigative and hands-on approach to secondary mathematics instruction. Particular attention given to teaching theories, curriculum issues, and recommendations arising from state, national, and international assessments. Research-based practices and inclusionary approaches to teach mathematics to learners from a variety of backgrounds and across a range of abilities. Addresses standards-aligned instructional approaches and techniques, including co-teaching.

TLT 440 Pre-professional Seminar 3 Credits
Study, directed observation of, and initial practice in the various phases of teaching in secondary schools. Guided opportunities to try out strategies to facilitate the inclusion of special education students, differentiated instructional practices, and standards-aligned and evidence-based instructional approaches in actual school settings. Consent of program coordinator required.

TLT 442 (SPED 442) General Education and Special Education Student Teaching and Seminar 1-6 Credits
Intensive practice in the application of principles of teaching for both general and special education settings in a supervised internship in the schools (for dual certification). Regular meetings among student teachers for critical analysis and discussion of classroom instructional practices, as illustrated by the student teachers’ experiences in the schools. Practical mentoring on professionalism, applying differentiated instructional models in real-world setting, and aligning instruction with standards. Consent of program director required.

TLT 444 General Education Student Teaching and Seminar 1-6 Credits
Intensive practice in the application of principles of teaching for general education settings in a supervised internship in the schools. Regular meetings among student teachers for critical analysis and discussion of classroom instructional practices, as illustrated by the student teachers’ experiences in the schools. Practical mentoring on professionalism, applying differentiated instructional models in real-world setting, and aligning instruction with standards. Consent of program director required.
Online, and mobile interactive learning environments. Consequence feedback loops to develop classroom or corporate, explore story, character, and challenge design, choice creation, and visuals, and other digital media and assess the results. Students will environments using interactive media. Students will apply various this course focuses on the design, development, and implementation of authentic project-, scenario-, and simulation-based learning environments using interactive media. Students will apply various instructional design models, learning theories, and multimedia tools to create project-, scenario-, and simulation-based materials, visuals, and other digital media and assess the results. Students will explore story, character, and challenge design, choice creation, and consequence feedback loops to develop classroom or corporate, online, and mobile interactive learning environments.