Teaching, Learning, & Technology (TLT)

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.

Repeat Status: Course may be repeated.

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
Examines 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 Critical Reading and Writing 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 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.
Prerequisites: TLT 401

Can be taken Concurrently: TLT 401

TLT 404 (SPED 404) Diversity, Families, and School Collaborations in K-12 3 Credits
Cultural and linguistic diversity as critical variables in educational
equity for all learners, including ELL. Explores home-school
partnerships, family and professional collaboration, and teacher
self-awareness. Implementing culturally sensitive and responsive
classroom practices as well as forming collaborative relationships
with families that respect diversity of family contexts. Collaborative,
multidisciplinary teaming to support, optimize, and advocate for
student’s educational needs and connect to community services and
resources available to individuals and families. Addresses family
mental health issues and wraparound services.

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 RtII
framework.

TLT 407 Instructional Design for K-12 Classrooms 3 Credits
Introduces the systematic design of instruction following the Response
to Intervention and Intervention (RTII) 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 community of learners using connections
among classroom arrangement, classroom management, and
cognitive development to create positive learning outcomes for
all students, including ELL learners and students with disabilities.
Addresses the tiered model of prevention and positive behavior
support, including the role of functional assessment and individual
positive behavior support plans in classroom management. Highlights
the ways a positive climate for learning involves establishing and
maintaining partnerships with families.

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 pre-K-grade 4 social studies curricula. Effective teaching techniques, helping parents support their children’s social studies development, and recommendations arising from state, national, and international organizations. Particular attention given to learning theories, curriculum issues, and assessment principles. 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/literature, mathematics, science, social studies). Techniques for reading and enhancing writing in various styles. Applications of technology and assessment types highlighted within instructional contexts. Emphasis on evidence-based instructional approaches and techniques, including co-teaching.

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 442 Mathematics in Middle Level and High School Education 3 Credits
Standards-based and technology-intensive curricula, instructional methods, and manipulative aids for mathematics in middle level and high schools. This course models and explores investigative approaches and hands-on approaches to secondary mathematics instruction. Particular attention given to learning theories, curriculum issues, and recommendations arising from state, national, and international organizations. Research-based practices and instructional approaches to teach mathematics to learners from a variety of backgrounds and across ability levels.

TLT 414 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 methods, and manipulative aids for mathematics in middle level and high schools. This course models and explores investigative approaches and hands-on approaches to secondary mathematics instruction. Particular attention given to learning theories, curriculum issues, and recommendations arising from state, national, and international organizations. Research-based practices and instructional approaches to teach mathematics to learners from a variety of backgrounds and across ability levels.

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 students’ 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 454 Applied Instructional and Interface Design Principles 3 Credits
Exploration and application of design models for learning. Special emphasis on the application of perception theory, communication theory, and learning theory to the design of media for teaching and learning.
Prerequisites: TLT 403

TLT 456 Instructional Design and Development Studio 3 Credits
Studio-based, authentic and collaborative design experiences led by a faculty mentor. Students work in teams to complete substantial multimedia design and development projects.
Prerequisites: TLT 454 and TLT 460

TLT 458 Introduction to Multimedia Programming and Resource Development for Learning 3 Credits
Introduction to programming and resource development tools used in the creation of interactive multimedia teaching and learning materials.

TLT 460 Advanced Multimedia Programming and Resource Development for Learning 3 Credits
Advanced exploration of programming and resource development tools used in the creation of interactive teaching and learning materials.
Prerequisites: TLT 458

TLT 462 Special Topics in Development of Instructional Resources and Technologies for Learning 1-3 Credits
We know the use of technology in education will continue to increase. This course extrapolates current research to envision the innovations we can expect in a planning horizon of 2 to 5 years. We will study schools and systems that use emerging technologies today that could be widely adopted tomorrow. The course focuses equally on technology and pedagogy.
Repeat Status: Course may be repeated.

TLT 466 Field Experience: General Education Certification 1-3 Credits
Intensive practice in the application of principles of teaching in general education in a supervised experience in the schools for students who already hold special education certification. Practical mentoring on professionalism, applying differentiated instructional models in real-world setting, and aligning instruction with standards. Consent of the program director.

TLT 470 Technology for Teaching and Learning 3 Credits
Analysis of available technologies (hardware, software, and Web resources), and identification of technologies matched to learner needs in traditional and/or non-traditional settings.

TLT 472 Online Teaching and Learning 3 Credits
Examination of contemporary research on online learning and recognized best practices on the design and delivery of online, hybrid, and/or flipped courses or course modules. Emphasis on online activities to experience ways to maximize instructor presence and student engagement, collaboration, and achievement.

TLT 474 Large-scale Planning and Implementation of Educational Technology 3 Credits
Addresses topics such as planning, maintaining, funding, networking, staffing, staff development, and monitoring of educational technology implementations.

TLT 476 Assessment of Instructional Technologies 3 Credits
Techniques for evaluating technology implementations for teaching and learning. Focus on topics such as instrumentation, data collection and analysis, drawing conclusions from data sets, and preparing reports for stakeholders.

TLT 480 Curriculum Theory and Design 3 Credits
Curricular models and their features, with a focus on curriculum development and enactment. Special emphasis on design principles, curriculum’s role in K-12 settings, and technology-enhanced curriculum.

TLT 482 Practicum in University Teaching: Teaching, Learning & Technology 1-4 Credits
Mentored and guided co-teaching focused on the design, organization, pedagogy and assessment of university courses in Teaching, Learning and Technology. 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.

TLT 486 Doctoral Research Project 3 Credits
This course provides students with the opportunity to design and conduct research studies under the supervision of specific faculty.

TLT 492 Classroom Research Methods 3 Credits
Introduces students to classroom research design paradigms and the assumptions behind them, use of the literature, developing research questions, qualitative and quantitative procedures, research design, sampling design, data collection, data analysis, and reporting research results using educational applications.

TLT 494 Culminating Research Project 3 Credits
Designing and conducting research projects in classroom settings.

TLT 499 Dissertation 1-15 Credits