



LISTING OF COURSES OFFERED

TLT 367: Environmental Education (3) 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 course containing both online and fieldwork components

TLT 368: Teaching & Learning with Geospatial Tools (3) 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) 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) 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.

TLT 394: Special Topics in Education: (with subtitle) (1-3) Examination of a topic of research or professional interest in education. Subtitle will vary. May be repeated for credit as subtitle varies.

TLT 401: Overview of Teaching and Learning (3) 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) 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) 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. Prerequisite TLT 401 or POI

TLT 404 (SpEd 404): Diversity, Families, and School Collaborations in K-12 (3) 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) 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) Introduces the systematic design of instruction following the Response to Instruction 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) 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) 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) 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) 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: Reading and Literacy in PreK through 4th Grade. (3) Methods of teaching reading and literacy in preK-4, including critical components of early literacy. Selection of appropriate materials, instructional strategies, techniques, and formative and summative assessments. Best practices in reading instruction in a standards-aligned curriculum, explicit strategies for teaching vocabulary and comprehension, and using evidence-based practices to teach reading to learners at all levels of proficiency. Helping learners make the transition from learning to read to reading to learn. Working with families and non-school support services to enhance reading development.

TLT 422: Language Arts in PreK through 4th Grade (3) Principles of language learning and the development of communication skills from preK-4. Implications of developmental differences and experiences in non-school settings on student readiness and skills. Helping parents support their children's language skills development. Methods of teaching listening, speaking, and writing, including spelling, punctuation, grammar, and handwriting. Selection of appropriate standards-aligned materials, textbooks, assessments, and evidence-based approaches to teach the language arts to learners from a variety of backgrounds and across a range of abilities.

TLT 424: Children's Literature in Elementary Education (3) 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) 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. Course 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) 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) 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) 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) 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) 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. Course 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) 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 learning 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) 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. Prerequisite: consent of the program director.

TLT 442 (SpEd 442): General Education and Special Education Student Teaching and Seminar (1-6) 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. Prerequisite: consent of the program director.

TLT 444: General Education Student Teaching and Seminar (1-6) 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. Prerequisite: consent of the program director.

TLT 454: Applied Instructional and Interface Design Principles (3) 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. Prerequisite: TLT 403 or POI.

TLT 456: Instructional Design and Development Studio (3) 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 or POI.

TLT 458: Introduction to Multimedia Programming and Resource Development for Learning (3) 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) Advanced exploration of programming and resource development tools used in the creation of interactive teaching and learning materials. Prerequisite: TLT 458 or POI.

TLT 462: Special Topics in Development of Instructional Resources and Technologies for Learning (subtitle) (1-3) Focus on using advanced Website and digital resource development-and-manipulation tools to create multimedia learning materials. Topics will vary (for example, Database-Driven Web Development; Assistive Devices for Special Populations; Programming Handheld Devices; Multimedia Resource Development; Media Production for Instructional Programming). May be repeated for credit under different subtitles. Prerequisite: TLT 460 or POI.

TLT 466: Field Experience: General Education Certification (1-3) 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. Pre-requisite: Consent of the program director.

TLT 470: Technology for Teaching and Learning (3) 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 474: Large-scale Planning and Implementation of Educational Technology (3) Addresses topics such as planning, maintaining, funding, networking, staffing, staff development, and monitoring of educational technology implementations.

TLT 476: Assessment of Instructional Technologies (3) 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) 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 486: Doctoral Research Project 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) 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) Designing and conducting research projects in classroom settings.

TLT 499-10: Dissertation (1-15)

TLT 499-11: Maintenance of Candidacy (1)

Educ 493-11 Internship in Teaching, Learning & Technology (1-6) Opportunity for students to apply theory to practice in a variety of educational settings. Students will be supervised in the field and participate in seminars dedicated to addressing specific concerns and issues encountered during their experience. Prerequisite: consent of the program director.

Educ 494-11 Field Work in Teaching, Learning & Technology (3) Identification of significant problems in an educational environment, review of the literature, and development of appropriate research plans.

Educ 495-11 Independent Study in Teaching, Learning & Technology (1-6) Individual or small group study in the field of specialization. Approved and supervised by the major adviser. May be repeated.

Lehigh University's College of Education Programs in Teaching, Learning, and Technology

The College of Education is a nationally ranked graduate school at Lehigh University, a private institution located in the Lehigh Valley between Philadelphia and New York City. Lehigh actively recruits a diverse student body and welcomes inquiries from all interested students. For more information about our Teaching, Learning, and Technology programs, and how to apply contact:

TLT Program Director
Lehigh University College of Education
111 Research Drive
Iacocca Hall, A108
Bethlehem, PA 18015
Email: TLTProgram@Lehigh.edu
Phone: (610) 758-3230
Fax (610) 758-3243
Web site: www.lehigh.edu/education/tlt

