

# ELEMENTARY EDUCATION/ EARLY CHILDHOOD (ELEC)

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## **ELEC 590 - Experimental**

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment limited to students with a semester level of Graduate.

## **ELEC 595 - Workshop**

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

Enrollment limited to students with a semester level of Graduate or Post Baccalaureate.

## **ELEC 598 - Selected Topics**

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment limited to students with a semester level of Graduate or Post Baccalaureate.

## **ELEC 601 - Introduction to Educational Research**

This course provides an introduction to a variety of educational research methods. Students will locate, understand, evaluate and interpret educational research.

Credits: 3

Term(s) Typically Offered: Offered Winter Terms

Enrollment is limited to Graduate level students.

## **ELEC 605 - Overview of and Immersion in Global Education**

The course focuses on global education and an immersive experience in a mediated field experience abroad. Students will develop awareness and skills needed to teach in a culturally responsive classroom. Educational systems from various countries will be explored with a focus on the country of the mediated field experience.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to Graduate level students.

Enrollment limited to students with the SPECIAL APPROVAL attribute.

## **ELEC 607 - Classroom Teacher Leadership**

This course is intended to help teachers develop knowledge, skill, and dispositions in assuming leadership roles and responsibilities in their schools, districts, and the educational community. This course will focus on those aspects of leadership seen as most appropriate and potentially beneficial for teacher involvement. Particular attention will be paid to the relationship between teacher leadership, school effectiveness, and site-based accountability. Students will learn the knowledge, skills, and attitudes through both university classroom and site-based clinical activities.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

## **ELEC 608 - Historical, Psychological & Linguistic Foundations of Literacy**

A survey of the historical, psychological, and linguistic foundations that support current teaching-learning theories of reading instruction.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Enrollment is limited to Graduate level students.

## **ELEC 610 - The Reading Program in the Elementary School**

An in-depth study of reading development, materials, and instruction from emergent literacy through reading in the third grade.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Enrollment is limited to Graduate level students.

## **ELEC 612 - The Reading Program in the Middle/Secondary School**

This course is designed to assist candidates in understanding the language and literacy process as it applies to teaching in the middle and high schools. Particular attention is paid to reading and writing in the content areas and instructional strategies to support students' literacy development. The course will focus on ways in which reading, writing, speaking, and listening are developed and used within the learning of discipline-specific curriculum, including adaptation for culturally diverse and exceptional learners.

Credits: 3

Term(s) Typically Offered: Offered Summer & Winter Terms

Enrollment is limited to Graduate level students.

## **ELEC 613 - Families and Communities as Advocates and Partners in Early Childhood Programs**

This course examines research and practice as related to multiple facets of family, school and community functioning and engagement in early childhood education. An awareness of strategies in developing positive and supportive relationships with families of young children, including the legal and philosophical basis for family participation; community-centered services; and strategies for working with socially, culturally and linguistically diverse families will be included. Family involvement in early childhood programs and parent education will be stressed. Furthermore, this course will seek to explore the roles professionals who desire to gain advanced knowledge and leadership skills as child advocates and professional educators.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 614 - Foundations of Instructional Coaching**

This course will focus on introducing participants to best practices for K-12 instructional coaches. Topics will include providing leadership for K-12 curriculum programs, collaboration with teachers and administrators, data analysis, curriculum issues, knowledge of K-12 standards, and professional development facilitation. These foundations will provide students with experience in working with teachers to improve their instructional practice as well as student achievement. Special attention will be given to mastering the complexities of observing and modeling in classrooms and providing feedback to teachers.

Credits: 3

Term(s) Typically Offered: Offered Fall, Spring, & Summer  
Enrollment is limited to Graduate level students.

**ELEC 615 - Teacher Leadership & School Change for Instructional Coaches**

This course is designed to develop the understandings and skills of teachers as leaders in school change, through the lens of the instructional coach. Candidates will explore theories of organizational change as they apply to schools and school culture, focusing on current formal and informal opportunities for leadership. Candidates will apply the strategies and approaches in several authentic contexts.

Credits: 3

Term(s) Typically Offered: Offerings Vary  
Enrollment is limited to Graduate level students.

**ELEC 616 - Advanced Child Development: Birth through Grade 4**

Advanced Child Development: Birth through Grade 4 will provide an advanced overview of key aspects of child development (physical intellectual, emotional and social) from theories and research that span conception to the early school years (birth to age 9). Important contexts that shape children's development will also be a major focus of this course, such as family, school, community, socioeconomic and policy influences.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 617 - Historical Contexts and Current Issues and Trends in the Education of Young Children**

Historical Contexts and Current Issues & Trends in the Education of Young Children is designed to explore the field of early childhood education, placing emphasis on historical and contemporary perspectives and theories, as well as current trends and developments. Candidates will be expected to analyze a variety of early childhood environments and educational contexts for children (birth through nine years of age), in light of their personal interest and background knowledge. Candidates will be exposed to a variety of early childhood settings and philosophies via recorded observations of children and classrooms.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 618 - Using Technology within Early Childhood Education**

This course will acquaint candidates with the appropriate types and uses of technology in an early childhood classroom. Specific technologies will be explored with connections to early childhood development, curriculum and assessment. Cultural, legal and ethical issues will be included. Family and community connections will also be examined.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 619 - Planning, Management & Leadership of Early Childhood Education Programs**

Planning, Management & Leadership of Early Childhood Education Programs will assist candidates' depth of understanding regarding all aspects of program leadership. Research has shown that an early learning program's quality of care is linked to the quality of leadership and management found within. Therefore, emphasis will be placed upon the development of the leadership skills needed to effect positive change for early childhood programs, within communities and on behalf of the field of early learning and development.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 620 - Budgeting, Allocating Resources & Marketing within Early Childhood Programs**

This course is designed to study the many facts of planning, developing and assessing program budgets in various early childhood program structures. A focus on prioritizing and allocating resources through advertising, marketing and grant-writing will be included as well.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 621 - Regulations, Licensing, Program Accreditation & Law in Early Care & Education**

Regulations, Licensing, Program Accreditation & Law in Early Care & Education will provide an in-depth overview of the necessary aspects of administering high-quality early childhood programs. The level of program quality is integrally linked to its systems, structure and administration; each will therefore be examined in light of licensing regulations, program accreditation and laws that promote excellence in early childhood program administration.

Credits: 3

Term(s) Typically Offered: Offered as Needed  
Enrollment is limited to Graduate level students.

**ELEC 622 - Literacy Assessment Analysis & Instructional Decision Making**

A study of the causes and methods of correcting reading disabilities, this course is designed to familiarize the prospective reading specialist / literacy coach with the various kinds of assessments used in the diagnosis and remediation of reading difficulties and the use of assessment data to inform instructional decisions.

Prerequisites: ELEC 608<sup>C</sup> and ELEC 610<sup>C</sup> and ELEC 612<sup>C</sup> and ELEC 614<sup>C</sup>  
<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall, Spring, & Summer  
Enrollment is limited to Graduate level students.

**ELEC 623 - Language Acquisition & Literacy Development: Birth to Age 5**

Language Acquisition & Literacy Development: Birth to Age 5 includes an examination of the process of language and literacy development from birth through age 5 with a focus on using knowledge of child development in the school and with families. Through a blend of research/theory and practice, teacher candidates explore the relationship between language development and literacy, the development of instruction and assessment tools to foster literacy development, the creation of a literate environment and cultural familial influences on language and literacy.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 624 - Synchronous and Asynchronous Technology for K-12 Education**

Candidates will develop the use of synchronous and asynchronous technologies to assist in the teaching, emediation, assessment and enrichment of K-12 students in inclusive traditional and/or cyber classrooms. The goal is to help pre-service teachers implement various synchronous and asynchronous instructional technologies effectively.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 625 - Practicum: Assessment and Instruction for the Reading Specialist**

A practicum course designed to give the reading specialist candidate an opportunity to gain competence in selecting, administering, and interpreting a variety of formal and informal assessment measures in a field-based setting. The candidate will design and implement a program to help students with reading difficulties.

Prerequisites: ELEC 610<sup>C</sup> and ELEC 612<sup>C</sup> and ELEC 622<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall, Spring, & Summer

Enrollment is limited to Graduate level students.

**ELEC 626 - Practicum: Ethics and Social Justice in Early Childhood Education Programs**

This field-based course examines the ethics of early care and education, social justice and responsibilities inherent in the roles of working with families and young children. Diverse perspectives will be identified to develop an understanding of ethical concepts and social justice. The focus is to analyze the research reflecting the impact educators have on ethical and social justice responsibilities to children, families, communities, peers and the profession. Furthermore, this field-based course will require observation and application of the ethical codes of conduct to develop a thoughtful process to resolve ethical or legal conflicts, especially in working with diverse populations.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 627 - Current Issues in Reading Research**

A course designed to provide an opportunity for the student to make an individual in-depth study of one or more issues associated with instruction in reading.

Prerequisites: SEFE 602<sup>C</sup> or SEFE 696<sup>C</sup> or ELEC 697<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall, Spring, & Summer

Enrollment is limited to Graduate level students.

**ELEC 628 - Social Studies and Citizenship for Young Learners**

Social Studies and Citizenship for Young Learners will explore advanced work in the social studies curriculum, including its organization. Candidates will analyze methods of teaching, objectives and materials and will discuss evaluation /assessment techniques and citizenship development for PK-4 learners. Best practice classroom applications and the relationship between instruction and student learning outcome will also be explored within the context of social studies and citizenship content.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 629 - Practicum: Organization and Administration of School Reading Programs**

A field-based course to provide the potential reading specialist with an opportunity to survey and evaluate an existing reading program. Leadership qualities will be fostered to help the student grow as a resource member of an educational team.

Prerequisite: ELEC 622<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Fall & Spring Terms

Enrollment is limited to Graduate level students.

**ELEC 630 - Curriculum Integration through the Arts**

Curriculum Integration through the Arts provides the development and implementation of an integrated curriculum through the arts for all content areas across the learning standards Pre-K through grade 4, through the integration of play-based, experience-based and project-based teaching. Students will be introduced to various media, lesson planning, strategies of integrating the arts and using assessment data that meet the needs of culturally and linguistically diverse learners PreK-4 classrooms.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 631 - Teaching Writing as a Process**

An in-depth study of a process approach to writing instruction, including assessment and response to writing with an emphasis on using children's literature in the teaching of writing.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 633 - Resource Materials in Children's Literature**

Selection and evaluation of children's literature, survey of recent additions to the area with emphasis on newer non-fictional materials. Examines the place of literature in the teaching of reading and writing in the elementary classroom.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 636 - A Survey of the Mathematics Curriculum K-8**

Teachers will evaluate mathematics curricula materials from a variety of sources using instruments designed to help determine the value of support materials. The types of curriculum materials will be discussed and evaluated on current research.

Credits: 3

Term(s) Typically Offered: Offered Summer Terms

Enrollment is limited to Graduate level students.

**ELEC 638 - Curriculum Materials for K-8 Science**

This course is designed to provide teachers with a detailed study of current K-8 instructional materials and programs in science education. Emphasis is placed on construction of teaching materials, programs, and teaching concepts, which may be utilized to develop scientific concepts taught in the K-8 classroom.

Credits: 3

Term(s) Typically Offered: Offered Winter Terms

Enrollment is limited to Graduate level students.

**ELEC 639 - Assessment in the PreK-4 Classroom**

This course is designed to study the significant role assessment has in the implementation of developmentally appropriate early childhood programs, PK-4. Students will learn about various types and methods of assessment as well as appropriate uses for assessment information. Additionally, students will engage in a critical exploration of ethical responsibilities to students, families, colleagues and community as they consider the implications of assessment on both practice and outcomes for young children.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 643 - Advanced Literacy Coaching Practicum**

This is a practicum course designed to support reading specialist candidates' development of literacy coaching skills, strategies, and dispositions through hands-on activities with inservice teachers, administrators, allied support staff, and parents. Candidates will complete a minimum of 45 hours of supervised practicum experiences.

Prerequisites: ELEC 622<sup>C</sup> and ELEC 614<sup>C</sup> and ELEC 615<sup>C</sup> and ELEC 629<sup>C</sup>  
<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offerings Vary

Enrollment is limited to Graduate level students.

**ELEC 646 - Introduction to Gifted Education**

A survey of the history, philosophy, and current practices in the field of gifted child education. A field experience component includes observation of children who have been identified as gifted.

Credits: 3

Term(s) Typically Offered: Offered Summer & Winter Terms

Enrollment is limited to Graduate level students.

Enrollment limited to students in the College of Education college.

**ELEC 647 - Identification and Assessment of Gifted Learners**

An in-depth study of the different facets of giftedness and the multiple means in which to identify and assess gifted learners and their cognitive, social and emotional needs. Prerequisite: A minimum of Level 1 certification and ELEC 646 Introduction to Gifted Education. This course is not open to undergraduate students.

Prerequisite: ELEC 646<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered Summer & Winter Terms

Enrollment is limited to Graduate level students.

Enrollment limited to students in the College of Education college.

**ELEC 648 - Gifted Education Models of Teaching**

An in-depth study of the multiple service models for meeting the needs of gifted learners. A 10-hour field component includes observations of a variety of programs for gifted learners and the development of an Individualized Gifted Plan. A minimum of Level 1 certification and ELEC 646 Introduction to Gifted Education.

Prerequisite: ELEC 646<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

Enrollment limited to students in the College of Education college.

**ELEC 649 - Gifted Education Curriculum Design and Practicum**

A course designed to provide the candidate with experiences in designing and implementing curriculum for gifted learners. Candidates will have an opportunity to interact with and guide instruction for gifted students through a final 10-hour practicum experience.

Prerequisites: ELEC 646<sup>C</sup> and ELEC 647<sup>C</sup> and ELEC 648<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

Enrollment limited to students in the College of Education college.

**ELEC 653 - Emerging Web Technologies and Learning**

Candidates will utilize emerging web tools to address the needs of their content modules. The course will provide an opportunity to design innovative ways of applying these emerging technologies to facilitate their own teaching and student learning in the K-12 cyber classroom. Candidates will develop and submit an IRB approval for employing their modules with students in the Capstone course.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 659 - Issues and Ethics in Online Teaching**

Candidates will identify and explore current issues and ethical decisions educators and administrators experience when exploring and implementing online teaching practices. The goal of this course is to provide pre-service teachers with a knowledge base of the benefits and hardships that educational entities face when providing online instruction.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 660 - Advanced Technologies for the Teaching of Mathematics and Science**

Candidates will develop the use of technologies to assist classroom teachers in the diagnosis of student misconceptions, and in the remediation and enrichment of mathematics and science instruction. This course is designed to help practicing teachers become familiar with educational technology, its uses and how to integrate computer and calculator technology in their mathematics and science classrooms. The goal is to help teachers implement technology effectively in their own instruction, as well as, assisting their students to utilize educational technology efficiently and appropriately.

Credits: 3

Term(s) Typically Offered: Offered Summer Terms

Enrollment is limited to Graduate level students.

**ELEC 661 - Perspectives in Mathematics and Science Education**

Current issues in mathematics and science education will be examined, such as content specialists at the elementary level. Standards set forth by national associations, the science/technology/society theme, misconceptions in mathematics and science, minorities and females in mathematics and science, and programs for special populations.

Prerequisites: ELEC 636<sup>C</sup> or ELEC 638<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 664 - Problem Solving in K-8 Education**

Students will examine research and techniques as they apply to mathematical and related problem solving approaches for students in the elementary school. There will be special emphasis on induction and deduction techniques as they apply to a wide variety of topics in elementary school mathematics.

Credits: 3

Term(s) Typically Offered: Offered Summer Terms

Enrollment is limited to Graduate level students.

**ELEC 667 - Science & Engineering Concepts for K-8 Teachers**

This course is designed to increase the practicing teacher's knowledge and conceptual understanding of science concepts outlined in the National Science Education Standards and Pennsylvania Science and Technology, as well as Environmental and Ecology Standards. Participants will develop this understanding via a problem-based approach allowing them to develop their own inquiry-based lesson planning in the classroom, while connecting science concepts to everyday life.

Credits: 3

Term(s) Typically Offered: Offered Summer Terms

Enrollment is limited to Graduate level students.

**ELEC 668 - Mathematics Content for K-8 Teachers**

Students will explore the mathematics required for teaching and the different methods of approaching and solving without the use of traditional algorithms.

Credits: 3

Term(s) Typically Offered: Offered Summer Terms

Enrollment is limited to Graduate level students.

**ELEC 670 - Literacy Instruction & Assessment: Ages 6-9**

This course is being developed as part of a new track in the existing M.Ed. Program. Currently, no graduate course dedicated to literacy instruction and assessment of early childhood students ages 6-9, is offered through the ELEC department, College of Education or university. The content of this course includes the knowledge and skills required for initial certification as specified by PDE (Pennsylvania Department of Education).

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 671 - Science for the Young Learner: Birth to 9**

This course is being developed as part of a new track in the existing M.Ed. Program. Currently, no graduate course dedicated to literacy instruction and assessment of early childhood students ages 6-9, is offered through the ELEC Department, college of Education or university. The content of this course includes the knowledge and skills required for initial certification as specified by PDE (Pennsylvania Department of Education). The course will meet the candidate requirements for science and technology pedagogy that is outlined by the Pennsylvania Department of Education for initial teacher certification PK-4.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 672 - Mathematics for the Young Learner: Birth to 9**

Mathematics for the Young Learner: Birth to 9 contain required content that will satisfy accreditation requirements and fulfill the goals of a Master's Program that provides initial certification in early childhood education.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 673 - Early Childhood Practicum**

The Early Childhood Practicum provides an in-depth teaching experience in an elementary classroom in which opportunities are provided for the application of content knowledge, pedagogical skills and the assessment of children's learning.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 678 - Supporting Quality Curriculum, Instruction and Assessment for Young Learners**

This course is designed to prepare graduate students with a strong theoretical base and practical understanding of the development of early childhood curriculum that supports best practices in the field. Research-supported practices in early childhood instruction and assessment will be critically explored.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 679 - Capstone: Design & Implementation of Action Research**

This course is designed to engage the learner in the process of inquiry through action research. Action research is the process of focused self-reflection through evidence collecting and this course will outline the steps in this process as well as provide the requisite support to engage in practitioner inquiry through action research. Participants in the course will complete an action research project as a culminating experience.

Prerequisite: ELEC 678<sup>B</sup>

<sup>B</sup> Requires minimum grade of B.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 680 - Student Teaching: ECE PK-4**

Student Teaching is a transition between pre-service and in-service teaching. The experience allows the student teacher to work collaboratively with a cooperating teacher, gradually assuming all responsibilities of classroom teaching. The student teaching experience requires partnerships between the university and cooperating school districts, and is considered the capstone experience of the program.

Credits: 9

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 687 - Integration of Web-based Technologies to Create Online Courses**

Candidates will develop an online module(s) including lessons, activities, assessments, synchronous and asynchronous instruction and other methods of instruction that were developed through courses in the program. The module is expected to be delivered to students. The purpose is to demonstrate candidate's ability to develop courses for online teaching.

Prerequisite: ELEC 653<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 690 - Experimental**

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 691 - History of Mathematics Education**

This course will enable the student of mathematics education to be conversant about the people and beliefs that have influenced the practice of teaching mathematics from pre-school through grade 8.

Credits: 2

Term(s) Typically Offered: Offered Winter Terms

Enrollment is limited to Graduate level students.

**ELEC 692 - History of Science**

This course provides teachers with an in depth look at key individuals and cultures that have impacted Western civilization from antiquity through the early modern era with regards to science content. The primary focus will be on discoveries that have impacted current knowledge bases in chemistry, biology, medicine, geology, and physics. A second focus will be study of the debate and reasoning provided by leading scientists involved, while paying attention to the social and cultural contexts in which they worked.

Credits: 2

Term(s) Typically Offered: Offered Winter Terms

Enrollment is limited to Graduate level students.

**ELEC 695 - Workshop**

A workshop is a program which is usually of short duration, narrow in scope, often non-traditional in content and format, and on a timely topic.

Credits: 1-6

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 697 - Statistical Interpretation & Analysis in Reading Research and Assessments**

This course focuses on the interpretation of statistics used in literacy assessments and research, with a focus on assisting reading specialists and classroom teachers in utilizing data to inform literacy instruction and to meet the needs of individual students.

Credits: 3

Term(s) Typically Offered: Offered Summer & Winter Terms

Enrollment is limited to Graduate level students.

**ELEC 698 - Selected Topics**

A Selected Topics course is a normal, departmental offering which is directly related to the discipline, but because of its specialized nature, may not be able to be offered on a yearly basis by the department.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 699 - Teacher Action Research in the Mathematics/Science Classroom**

This course is designed to increase the practicing teacher's understanding of qualitative research. Practicing teachers will develop a qualitative research proposal or action research proposal to implement during the seminar course (ELEC 705).

Prerequisite: ELEC 601<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 1-3

Term(s) Typically Offered: Offered Summer Terms

Enrollment limited to students with a semester level of Graduate.

Enrollment is limited to Graduate level students.

**ELEC 700 - Independent Study**

Independent Study courses give students the opportunity to pursue research and/or studies that are not part of the university's traditional course offerings. Students work one on one or in small groups with faculty guidance and are typically required to submit a final paper or project as determined by the supervising professor.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 705 - Seminar in Mathematics and Science Education Research**

Students will participate in a practicum experience under the direction of a faculty member. The practicum experience will be completion of a research project developed during the program and carried out during this course. The final project will be written, bound and submitted for review by two faculty members who will determine if the student has successfully completed the requirements for the program.

Prerequisite: ELEC 699<sup>C</sup>

<sup>C</sup> Requires minimum grade of C.

Credits: 2

Term(s) Typically Offered: Offered Winter Terms

Enrollment is limited to Graduate level students.

**ELEC 790 - Experimental**

A unique and specifically focused course within the general purview of a department which intends to offer it on a "one time only" basis and not as a permanent part of the department's curriculum.

Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment limited to students with a semester level of Graduate.

**ELEC 795 - Workshop**

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Credits: 1-6

Term(s) Typically Offered: Offered as Needed

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**ELEC 798 - Selected Topics**

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Credits: 1-3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 800 - Thesis**

In Thesis, the candidates for the Master of Education degree writes the last two chapters of their thesis with the assistance of the thesis committee. In addition, the candidates must make a successful oral defense of the thesis. Students pursuing a thesis program should contact their academic advisor concerning research after completing about one-half of their degree coursework. The advisor will assist the student with the necessary steps (such as preliminary selection of a topic and arranging for the appointment of a committee) to proceed.

Credits: 3

Term(s) Typically Offered: Offered as Needed

Enrollment is limited to Graduate level students.

**ELEC 813 - Advocacy and Family, School and Community Engagement**

This course examines the role of school, family and community engagements as a component of educational reform. The focus is to analyze the research reflecting the impact of home/school and community/school partnerships on student learning. Furthermore, this course will seek to explore the various theoretical frameworks that focus on family types, cultures, economic conditions, school systems, community services, political forces, advocacy groups and other additional factors that impact young children and their families with special needs. A framework for conceptualizing child/family policy, roles professionals can play in building advocacy/policy and approaches professionals can use in implementing these roles will also be investigated.

Credits: 3

Term(s) Typically Offered: Offered Fall Terms Even

Enrollment limited to students in the EDD 9DSE program.

Enrollment is limited to Graduate level students.