

EDML. EDML

EDML-5000. FOUNDATIONS OF THE EDUCATION PROFESSION

Credits: 3

Students are oriented to the education profession through foundational knowledge and field work required of teachers entering the profession. Graduate students seeking initial certification are required to complete this course in their first year of the program upon acceptance. A field experience is required as part of this course. Department permission required.

EDML-5001. TEACHING ADOLESCENT LEARNERS AT THE MIDDLE LEVEL

Credits: 3

This course builds a deeper understanding of diverse adolescent learners at the middle level. Cognitive, emotional, and social needs of adolescents in middle school that inform innovative curriculum development, research-based instructional strategies, and effective assessment practices will be examined.

EDML-5002. MATHEMATICS IN MIDDLE LEVEL INSTRUCTION

Credits: 3

This course consists of an overview of basic concepts pertaining to the study of middle level mathematics (grades 4-8) with developmentally appropriate pedagogy for middle level mathematics instruction. This course is not required for students selecting a middle level mathematics concentration.

EDML-5003. SCIENCE IN MIDDLE LEVEL INSTRUCTION

Credits: 3

This course consists of the basic concepts pertaining to the study of middle level (grades 4-8) science. Topics include the main concepts within science inquiry, physical science, chemistry, earth and space science, and life science with developmentally appropriate pedagogy for middle level science instruction. This course is not required for students selecting a middle level science concentration.

EDML-5004. ENGLISH AND LANGUAGE ARTS IN MIDDLE LEVEL EDUCATION

Credits: 3

This course provides an overview of language arts and reading strategies for use at the middle level (4-8) with emphasis on the following: reading fiction and nonfiction texts, critical literacy, understanding different types of writing, and common approaches to composition. This course is not required for students selecting a middle level English concentration.

EDML-5005. SOCIAL STUDIES IN MIDDLE LEVEL EDUCATION

Credits: 3

This course presents the basic concepts pertaining to instruction of middle level (grades 4-8) social studies. Topics include the main concepts from within the social studies disciplines: U.S. history, world history, geography, government and civics, and economics. This course is not required for students selecting the middle level social studies concentration.

EDML-5007. DEVELOPMENT OF THE ADOLESCENT LEARNER AT THE MIDDLE LEVEL

Credits: 3

This course builds a deeper understanding of early adolescent learners with an emphasis on cognitive, emotional, physical, psychosocial, and abnormal development and how this can impact teaching and learning.

EDML-5008. STUDENT TEACHING INTERNSHIP IN MIDDLE LEVEL EDUCATION

Credits: 6

This is the culminating course for middle level certification (4-8). Students seeking initial Pennsylvania teaching certification will apply their knowledge of middle-level content and research-based practices in the field by working with young adolescents. For initial certification, 12 weeks of student teaching are required.

Pre-Requisites

Successful completion of all required EDML program coursework.

EDML-5009. INTERNSHIP IN MIDDLE LEVEL EDUCATION

Credits: 3

This is the culminating course for middle level certification (4-8). Students will apply their knowledge of content and research-based practices in the field by working with young adolescents. A 90-hour teaching internship is required for PA certified teachers having no documented evidence of successful teaching at the middle level.

Pre-Requisites

Successful completion of all required EDML program coursework.

EDML-5010. NUMBER THEORY FOR MIDDLE LEVEL EDUCATION

Credits: 3

This course examines topics that encompass the three main categories in the Number and Operations strand of Principles and Standards of School Mathematics (NCTM): understanding numbers and number systems, operations with numbers and how they relate to one another, computation and estimation. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5011. CONCEPTS OF MEASUREMENT FOR MIDDLE LEVEL EDUCATION

Credits: 3

This course explores concepts and procedures for measuring and learning about standard units in the metric and customary systems, the relationships among units, and the approximate nature of measurement. Topics are how measurement can illuminate mathematical concepts such as irrational numbers, properties of circles, and area and volume formulas. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5012. DATA ANALYSIS, PROBABILITY AND STATISTICS IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course introduces statistics as a problem-solving process. Skills are built through investigations of ways to organize and represent data and describe and analyze variation in data. The association between two variables, probability, random sampling, and estimation are covered. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5013. ALGEBRAIC CONCEPTS IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course explores the 'big ideas' in algebraic thinking. Topics include algebraic thinking, patterns in context, functions and algorithms, proportional reasoning, linear functions and slope, solving equations, nonlinear functions, and algebraic structure. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5014. GEOMETRY ESSENTIALS IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course introduces the essentials of geometry as a method for problem solving. Content includes exploring the properties of geometric figures, making constructions using pencil and paper and dynamic software, using mathematical language to express ideas to justify reasoning while exploring the basis of formal mathematical proofs and solid geometry. Also included are content-related pedagogy and best-practice instructional strategies.

EDML-5015. MATHEMATICAL PROBLEM SOLVING IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course provides a context for teachers to explore issues about learning and teaching mathematics. Interactions of middle level students engaged in authentic mathematical activities are examined with implications for learning, teaching and assessment. This course is an elective in the middle level mathematics program.

EDML-5020. SCIENTIFIC INQUIRY FOR MIDDLE MIDDLE LEVEL SCIENCE**Credits: 3**

This course focuses on addressing the demands required of students to comprehend discipline-specific scientific text. Strategies learned in this course support students in learning how to read a wide range of scientific genres. Students will focus on the implementation of inquiry learning and the positive aspects of this approach as related to various scientific disciplines.

EDML-5021. PHYSICS AND SCIENTIFIC TECHNIQUES FOR MIDDLE LEVEL EDUCATION**Credits: 3**

This course presents the basic concepts pertaining to physical and chemical properties of matter. Topics include nuclear and anatomic structure, thermodynamics, heat, energy, matter, laboratory safety procedures, data manipulation, measurement and mathematics, and the methodology and philosophy of science, as well as effective pedagogy to teach these concepts. This course is an elective in the middle level science program.

EDML-5022. BIOLOGY AND LIFE SCIENCES FOR MIDDLE LEVEL EDUCATION**Credits: 3**

This course presents the basic concepts pertaining to the study of the biological sciences. Topics include the nature of science, anatomy and physiology of structures associated with life functions of organisms, the cell, evolution, genetics, ecology, as well as effective inquiry-based pedagogy to teach these concepts.

EDML-5023. PHYSICAL SCIENCES FOR MIDDLE LEVEL EDUCATION**Credits: 3**

This course presents the basic concepts of physics including: basic relationships between matter and energy, mechanics, electricity, magnetism, and waves. Topics include the conservation of energy, heat and thermal dynamics, atomic and nuclear structure, electricity, and the effective pedagogy to teach these concepts.

EDML-5024. EARTH AND SPACE SCIENCES FOR MIDDLE LEVEL EDUCATION**Credits: 3**

This course examines the essential concepts pertaining to the study of the Earth as a constantly changing and dynamic system. Major topics include astronomy, meteorology, oceanography, historical geology and physical geology, as well as effective inquiry-based pedagogy to teach these concepts.

EDML-5025. BASIC CHEMISTRY FOR MIDDLE LEVEL EDUCATION**Credits: 3**

This course presents the basic principles of chemistry with an overview of theories and research addressing the chemical and physical properties of matter. Topics covered include atomic and molecular structure, chemical and physical properties, chemical bonding, and the phases of matter, as well as effective pedagogy to teach these concepts at the middle level.

EDML-5030. ADOLESCENT LITERATURE**Credits: 3**

This intensive reading course presents major works and authors of adolescent literature explored within historical and cultural contexts. Critical approaches will be used to apply knowledge of various authors, and literary and historical periods.

EDML-5031. LITERARY FORMS & MEDIA LITERACY IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course will focus on literary devices, literary forms, and text structures for middle level learners. Media literacy will include common research techniques, appropriate documentation of sources to avoid plagiarism, and locating and evaluating sources including multi-media sources.

EDML-5032. READING STRATEGIES IN MIDDLE LEVEL EDUCATION**Credits: 3**

The focus of this course is literacy development as it relates to middle level students, with emphasis on comprehension, fluency, vocabulary, and writing. The course also provides research and practical applications of literacy instructional strategies in the middle level classroom.

EDML-5033. TEACHING AND EVALUATING WRITING I IN MIDDLE SCHOOL**Credits: 3**

The focus of this course is writing instruction and evaluation as it relates to middle level students. This course presents the teacher as writer and students will write for a variety of purposes. Elements of grammar are examined. Research on writing instruction, best practices, and assessment of writing will be addressed.

EDML-5034. TEACHING & EVALUATING WRITING II IN MIDDLE LEVEL EDUCATION**Credits: 3**

This is the second part of the Teaching and Evaluating Writing series. The focus of this course is writing instruction and evaluation as it relates to middle level students. This course provides an in-depth examination of the traits of writing. Students will develop lessons, assessments, and instructional materials to effectively teach writing to adolescents.

EDML-5040. US HISTORY IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course provides knowledge and skills for teaching U.S. History at the middle school level. Chronological accounts of major developments in U.S. History, from colonization through the 20th century, will be explored to understand how major themes have shaped the growth of the United States, its people, and its culture.

EDML-5041. TEACHING GEOGRAPHY IN MIDDLE LEVEL EDUCATION**Credits: 3**

Geographic literacy, map skills, physical geography, and human geography are explored within the context of middle school geography standards. Skills needed to teach fundamental knowledge related to U.S. and World geography and its relationship to patterns of cultural, governmental, and economic activities will be studied.

EDML-5042. GOVERNMENT AND CIVICS IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course provides the foundational knowledge required to teach government and civics at the middle school level. Key concepts include the study of the Constitution, federalism, political parties, and citizenship. International structures and systems will also be explored.

EDML-5043. WORLD HISTORY IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course focuses on major developments and themes related to World History. Skills needed to teach early humans and societies to the modern world at the middle school level will be studied, as well as relevant histories, cultures, and societal elements.

EDML-5044. FUNDAMENTALS OF ECONOMICS IN MIDDLE LEVEL EDUCATION**Credits: 3**

This course differentiates between microeconomics and macroeconomics and teaches how that knowledge can be applied in the middle level social studies curriculum. Market structures, GDP, unemployment, and inflation are included as well as how government intervention and policy affect the US and global economies.