

EDMA-MATHEMATICS EDUCATION

EDMA 2353 Mathematical Communication and Structures 3 Credit Hours

Prerequisite: Admission to Jeannine Rainbolt College of Education and instructor permission. Manipulatives are learning tools used to create concrete and/or visual representations of abstract concepts. Students will use manipulatives to develop deeper conceptual understandings of elementary mathematics as well as their ability to communicate these understandings. Topics include number concepts, operations, algebraic reasoning, and geometric concepts. Students will develop and use multiple strategies for doing mathematics and communicating their mathematical thinking.

EDMA 2960 Individual Study 1-4 Credit Hours

1 to 4 hours. Prerequisite: good standing in University; fewer than 62 total hours; approval of instructor and dean. May be repeated; maximum credit four hours. Designed to provide an introduction to the study of education through a rigorous program of readings under the direction of a member of the faculty. (Irreg.)

EDMA 3353 PK-3 Mathematics Concepts 3 Credit Hours

Prerequisite: admission to the teacher education program and 1000-level Gen Ed approved Math, MATH 2213. Addresses the important "big" ideas in mathematics that are appropriate for pk-3rd grade students to learn. How research, theory and practice facilitate young children's learning will be explored. Will also be emphasis on inquiry based/problem centered curriculum, instructional strategies and assessment. (F, Sp, Su)

EDMA 3440 Mentored Research Experience 3 Credit Hours

0 to 3 hours. Prerequisites: ENGL 1113 or equivalent, and permission of instructor. May be repeated; maximum credit 12 hours. For the inquisitive student to apply the scholarly processes of the discipline to a research or creative project under the mentorship of a faculty member. Student and instructor should complete an Undergraduate Research & Creative Projects (URCP) Mentoring Agreement and file it with the URCP office. Not for honors credit. (F, Sp, Su)

EDMA 3960 Honors Reading 1-3 Credit Hours

Prerequisite: admission to Honors Program. May be repeated; maximum credit six hours. Provides students with the opportunity to develop an appropriate body of reading materials on topics not covered in detail in routine coursework. Students will be obliged to assume the primary initiative in selecting the topic, compiling the bibliography and completing the reading, and will report their progress in weekly sessions to their instructor. Credit will be given only after an intensive oral examination. (Irreg.)

EDMA 3970 Honors Seminar 1-3 Credit Hours

Prerequisite: admission to Honors Program. May be repeated; maximum credit six hours. Covers variable subjects in education with in-depth studies of issues not covered in the standard course offerings. (Irreg.)

EDMA 3980 Honors Research 1-3 Credit Hours

Prerequisite: admission to Honors Program. May be repeated; maximum credit six hours. Provides an opportunity for honors students to work on a special project under the guidance of a professor in the student's major area of study. (Irreg.)

EDMA 3990 Independent Study 1-3 Credit Hours

1 to 3 hours. Prerequisite: one course in general area to be studied; permission of instructor and department. May be repeated; maximum credit six hours. Contracted independent study for topic not currently offered in regularly scheduled courses. (F, Sp)

EDMA 4233 Developing Problem-Solving Environ for Secondary Math Learning 3 Credit Hours

Prerequisite: Mathematics 2433 or Mathematics 2924, and full admission to the Mathematics Education Program. The development of problem-solving environments for middle and high school mathematics learning. Emphasizes student characteristics, issues of equity and diversity, theories of teaching and learning, and current best practices from research into mathematics teaching and learning. Areas of focus will include problem-centered learning, appropriate uses of technology, and inclusion of historical and interdisciplinary topics in teaching mathematics for all students. (F)

EDMA 4243 Fundamental Concepts of Secondary Math Learning 3 Credit Hours

Prerequisite: EIPT 3473, and senior standing. Fundamental concepts of mathematics relevant to the secondary school mathematics curriculum. Development of secondary mathematics curriculum and appropriate instructional methods for the teaching of Algebra, relations and functions. This course will serve as the senior capstone. (Sp) [V].

EDMA 4253 Teaching and Learning of Mathematics Reasoning and Proof 3 Credit Hours

Prerequisite: full admission to Mathematics Education Program; recommend completion of EDMA 4233. This course focuses on the content and methodology of teaching middle and high school mathematics including geometry and trigonometry generally defined as reasoning and proof. (F)

EDMA 4353 4-8 Grade Mathematics Concepts 3 Credit Hours

Prerequisite: MATH 2213; MATH 2223; EDMA 3353; EDEL 4101; corequisite: EDLT 4813; EDSC 4193; EDSS 4323; EDEL 4980. Students will be engaged in planning, implementing, and evaluating mathematics curriculum and instruction in the elementary school grades 4 - 8. Materials and discussions relevant to learner diversity, the appropriate use of technology, and how to integrate mathematics with other subjects will be infused throughout the course. (F, Sp)

EDMA 4960 Directed Readings in Education 1-4 Credit Hours

1 to 4 hours. Prerequisite: good standing in University; permission of instructor and dean. May be repeated; maximum credit four hours. Designed for upper-division students preparing to teach who need opportunity to study a specific problem in greater depth than formal course content permits. (Irreg.)

EDMA 4970 Special Topics/Seminar 1-3 Credit Hours

1 to 3 hours. Prerequisite: senior standing or permission of instructor. May be repeated with change of content; maximum credit nine hours. Special topics or seminar course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research and field projects. (Irreg.)

EDMA 4980 Practicum in Mathematics Education 1-3 Credit Hours

1 to 3 hours. Prerequisite: nine hours of education courses. Provides field-type experience under faculty supervision and is designed to introduce the student to the practical application of theory within an environment in which professional practice takes place. (Irreg.)

- EDMA 4990 Special Problems in Education 1-4 Credit Hours**
1 to 4 hours. Prerequisite: permission of instructor. May be repeated with change of title and subject. Variable as to subject and credit for areas of specialty and/or interest not otherwise provided in the standard offering of courses. (Irreg.)
- EDMA 5153 Problem Centered Learning in Mathematics 3 Credit Hours**
Prerequisite: graduate standing. Intended for mathematics teachers at any level, the course is designed so participants can engage in non-routine problem solving as a basis for examining and reflecting on such an approach to the teaching and learning of mathematics. (Irreg.)
- EDMA 5523 Elementary School Mathematics Curriculum 3 Credit Hours**
Prerequisite: graduate standing. Analysis of research, trends, and issues in elementary mathematics teaching. Special attention is given to the research and theoretical bases underpinning curricula. (Irreg.)
- EDMA 5533 The Middle School/High School Math Curriculum 3 Credit Hours**
Prerequisite: graduate standing. Analysis of research, trends, and issues in middle school and high school mathematics teaching. Special attention is given to the research and theoretical bases underpinning curricula. (Irreg.)
- EDMA 5753 Theory and Research in Mathematics Education 3 Credit Hours**
Prerequisite: graduate standing. Designed to enhance appreciation for and understanding of research methods and findings in mathematics education. Students explore the history of research in mathematics education, discuss various theories of mathematics learning and understanding, evaluate, synthesize, and critique mathematics education research, understand a variety of research methodologies, and conduct original research. (Irreg.)
- EDMA 5763 History of Mathematics for Educators 3 Credit Hours**
Prerequisite: graduate standing. Designed to offer a sense of the rich history of mathematics as an intellectual pursuit as well as for its practical significance. Will include presentation of methods and materials historical in nature that can be utilized by practicing classroom teachers to motivate and understanding of and appreciation for mathematics. (Irreg.)
- EDMA 5863 Social Justice by the Numbers 3 Credit Hours**
Prerequisite: Graduate standing. This course invites students to expand their knowledge and awareness of issues of social justice in the context of numbers, develop a pedagogical model for teaching for social change, critically examine the content of school curriculum and instructional practices from the perspective of social justice, and contemplate the role of the teacher as an agent of change and transformative intellectual. (Irreg.)
- EDMA 5910 Practicum in Education--Master's 1-4 Credit Hours**
1 to 4 hours. Prerequisite: graduate standing, permission of instructor and dean. May be repeated; maximum credit six hours. Variable as to title and subject profession. Provides field-type experience under faculty supervision and is designed to introduce the student to the practical application of theory within an environment in which professional practice takes place. Seminar experience is to be included. (Irreg.)
- EDMA 5920 Internship in Education--Master's 1-6 Credit Hours**
1 to 6 hours. Prerequisite: 5910, permission of instructor. May be repeated; maximum credit six hours. Variable as to title and subject profession. Available to master's degree programs specifically requiring an internship in addition to thirty-two hours of other coursework as part of the degree. Introduces the student to the profession under the supervision of a practitioner whose credentials are equal to those of the graduate faculty. (Irreg.)
- EDMA 5940 Field Studies in Mathematics Education 1-4 Credit Hours**
1 to 4 hours. Prerequisite: 12 hours of education. May be repeated with change of subject matter; maximum credit eight hours. Practical problems in education as defined by members of the classes. Typical topics: defining educational objectives, relating school programs to established objectives, developing teaching-learning aids, organization for participation in developing and evaluating instructional programs, using community resources for learning, improving evaluation procedure. (Irreg.)
- EDMA 5960 Directed Readings 1-3 Credit Hours**
1 to 4 hours. Prerequisite: 12 hours of education, approval of instructor, adviser and dean. May be repeated; maximum undergraduate credit eight hours; maximum graduate credit four hours. (Irreg.)
- EDMA 5970 Special Topics/Seminar 1-3 Credit Hours**
1 to 3 hours. Prerequisite: graduate standing or permission of instructor. May be repeated; maximum credit nine hours. Special topics or seminar course for content not currently offered in regularly scheduled courses. May include library and/or laboratory research and field projects. (Irreg.)
- EDMA 5980 Research for Master's Thesis 2-9 Credit Hours**
Variable enrollment, two to nine hours; maximum credit applicable toward degree, four hours. (F, Sp, Su)
- EDMA 5990 Independent Study 1-4 Credit Hours**
1 to 4 hours. Prerequisite: graduate standing or permission by instructor. May be repeated with change of subject matter; maximum credit six hours. Contracted independent study for a topic not currently offered in regularly scheduled courses. Independent study may include library and/or laboratory research and field projects. (Irreg.)
- EDMA 6163 Systems Theory & Learning Organizations 3 Credit Hours**
Prerequisite: Graduate standing. Examines system theories, including the development and significance of complex adaptive systems, complexity analyses, and paradigms associated with new science, especially related to the educational context. (Irreg.)
- EDMA 6910 Practicum in Education--Doctoral 1-6 Credit Hours**
1 to 6 hours. Prerequisite: admission to doctoral program, permission of instructor. May be repeated; maximum credit six hours. Variable as to title and subject profession. An advanced practicum for post-master's level students only. The object is to provide professional experience under faculty supervision in fields requiring a high degree of professional skill. Seminar experience is to be included. (Irreg.)
- EDMA 6920 Internship in Education--Doctoral 2-6 Credit Hours**
1 to 6 hours. Prerequisite: written permission of the instructor. May be repeated; maximum credit 12 hours. Variable as to title and subject profession. An advanced internship for post-master's level students only. The object of the internship is to cultivate within the student a high degree of proficiency and professional independence. Field supervision is by a practitioner whose credentials are equal to those of the graduate faculty. (Irreg.)

EDMA 6930 Intensive Studies in Education 1-6 Credit Hours

1 to 6 hours. Prerequisite: 12 hours of education and permission of instructor. Repeatable with change of title and subject. Opportunity offered for professional educators and others interested in education, cooperatively, to seek solutions to educational problems. Organized groups work in curriculum, guidance, instruction, administration and supervision. Competent leadership and expert consultant service provided. (Irreg.)

EDMA 6960 Directed Readings 1-3 Credit Hours

1 to 3 hours. Prerequisite: graduate standing or permission of instructor. May be repeated; maximum credit six hours. Directed readings and/or literature review under the direction of a faculty member. (Irreg.)

EDMA 6970 Post-Master's Seminar 2-4 Credit Hours

2 to 4 hours. Prerequisite: master's degree, 24 hours of education, permission of instructor. May be repeated with change of subject matter; maximum credit twelve hours. Enrollment limited to students who hold the master's degree. (F, Sp, Su)

EDMA 6980 Research for Doctoral Dissertation 2-16 Credit Hours

2 to 16 hours. Prerequisite: Graduate standing and permission of instructor; may be repeated. Directed research culminating in the completion of the doctoral dissertation. (F, Sp, Su)

EDMA 6990 Individual Study in Education 1-4 Credit Hours

1 to 4 hours. Prerequisite: 12 hours of education, graduate standing and permission of the instructor. May be repeated with change of subject matter; maximum credit eight hours. For advanced graduate students who need to study some problem or area not adequately covered in the organized courses, under the direction of a staff member in whose area of specialization the problem lies. (Irreg.)