

MASTER OF ARTS IN EDUCATION (M.A.Ed.)

The University of North Carolina at Pembroke offers a program of graduate studies leading to the advanced Master of Arts in Education degree and a graduate-level “M” license in Art Education, Elementary Education, Mathematics Education, Middle Grades Education, Physical Education, Reading Education, Science Education, and Social Studies Education.

The M.A.Ed. program is designed to enable career teachers to achieve advanced professional goals in content pedagogy, specialty area knowledge, leadership, and family/community partnerships. The programs are fully accredited by the National Council for Accreditation of Teacher Education, the North Carolina State Department of Public Instruction, and the Southern Association of College and Schools. All of the M.A.Ed. programs at UNCP are revised to meet the Master’s Advanced Competencies of the NC Department of Public Instruction and the UNC Board of Governors.

Graduate Program Coordinators

Art Education—Ann Horton-Lopez
 Elementary Education—Sharon Sharp
 Mathematics Education—William Truman
 Middle Grades Education—Warren Baker

Physical Education—Tommy Thompson
 Reading Education—Betty Brown
 Science Education—Sue Bowden
 Social Studies Education—Kathleen Hilton

The M.A.Ed. Program Structure

The M.A.Ed. consists of two program components—a common professional studies core (9 hours) and specialty area requirements specific to the licensure area (27 hours) for a total of 36 semester hours.

The nine-hour professional studies core is designed to provide teachers with the foundations needed for study, research, and leadership development at the graduate level. The goals of the professional studies core, in keeping with the UNCP Teacher Education Graduate Mission Statement, are as follows: 1) to engage the teacher in collaboration, critical reflection, and critical thinking; and 2) to facilitate teacher leadership dispositions and opportunities.

By the end of the professional studies sequence, teachers will have a clear understanding of what they need to do to achieve a higher stage of professional development, the proficiencies required to make it happen, and a sense of self-directed purpose in approach to the substantive course work in the specialty area that lies ahead. At the end of EDN 565, the last course in the professional studies sequence, teachers meet with their respective program directors to review and/or select a possible product of learning focus for the M.A.Ed.

Each M.A.Ed. Licensure area uses a unique configuration of required courses, guided electives, practica, and thesis options to meet the master’s advanced competencies. Full program descriptions are presented in the next section.

M.A.Ed. PROGRAMS OF STUDY AND COURSES

Programs 302

Art Education, Elementary Education, Mathematics Education, Middle Grades Education, Physical Education, Reading Education, Science Education, Social Studies Education

Courses 316

American Indian Studies Dept. (AIS); Art Dept. (ART); Biology Dept. (BIO); Chemistry and Physics Dept. (CHM/GGY/GLY/PHY); School of Education (EDN); Health, Physical Education, and Recreation Dept. (PED); History Dept. (HST/SSE); Mathematics and Computer Science Dept. (CSC/MAT); Political Science and Public Administration Dept. (PLS); Science Education (SCE)

Also available is an M.A. in English Education (see previous section).

**MASTER OF ARTS IN EDUCATION (M.A.Ed.)
ART EDUCATION**

Coordinator: Ann Horton-Lopez

Program Description

The M.A.Ed.: Art Education program is intended to serve as an extension of the established undergraduate art education program and provide individualization of instruction and program offerings beyond the baccalaureate for those individuals who wish to pursue a higher level of achievement in their chosen field.

The Masters of Arts in Education: Art Education program will extend the NCDPI competencies currently required for initial "A" licensure by extending the art educator's knowledge base and competencies by analytically reading art education professional literature, analyzing and discussing art education publications, theories, current practices in education and research. The program will extend the educator's competencies through self-reflection and self evaluation of planning skills, computer competencies, as well as through advance study of curriculum content, methods of organizing for instruction, materials, the classroom environment, and knowledge of the students and their needs. With this additional knowledge and experience, the art teacher will be prepared to take the role of a collaborative leader and the responsibilities for guiding colleagues in their planning.

Requirements for a Master of Arts in Education: Art Education	Sem. Hrs.
Required Professional Studies Core	9
EDN 550 - Applied Educational Psychology	
EDN 565 - Applied Philosophy of Education (Prereq: EDN 550)	
EDN 566 - Applied Educational Research	
Specialty Area Requirements	
A. Guided Course Work Emphasizing Art Education	15
The specific number of semester hours and areas of study required of the student will be determined on the basis of the student's prior background in Art Education at the time of entry into the Program. Courses will be selected from the following:	
ART 500 - Art in the Elementary School	
ART 501 - Survey of Art Education	
ART 502 - Curricula in Art Education	
ART 503 - Review of Research in Art Education	
ART 504 - History and Philosophy of Art Education	
ART 505 - The Teaching of Art History in the Art Education Classroom	
ART 510 - Independent Study	
B. Guided Electives: Art 510, 500, 501; EDN 553, 521, 530	3-6
C. Independent Study	3-6
D. Thesis Options	6
1. The student may elect to do a thesis dealing with a significant problem or inquiry in the field of art education (ART 600 - 6 credit hrs.).	
2. A student may elect an art studio concentration (6 credit hrs). A thesis concerning a reflection of the student's work and his or her philosophy of art and art education will be submitted with the student's work. Prerequisites: the student submits a portfolio of slides of his or her work to indicate competence in a selected studio concentration.	

Total Hours (Minimum): 36

MASTER OF ARTS IN EDUCATION (M.A.Ed.) ELEMENTARY EDUCATION

Coordinator: Sharon Sharp

Program Description

The master's degree in elementary education is designed for experienced, practicing teachers who are seeking an "M" license and/or planning to apply for National Board Certification. The master's program extends the theoretical and pedagogical foundations acquired during undergraduate study and builds on the competence acquired by the career teacher through years of practice. Teachers must hold an "A" license or be eligible to hold an "A" license at the time of application. Two years full-time teaching experience is recommended but not required. Teachers employed in private schools or community colleges may apply for special admission status.

Program Mission

The mission of the master's program in elementary education is to prepare the experienced teacher for full participation in the profession as leader, researcher, and master practitioner. The master's program is designed to promote both teacher autonomy and interdependence through inquiry, reflection, and action. Teachers and teacher educators are encouraged to collaborate on ways to enhance the professional lives of teachers, the learning and well-being of their students, the teaching and learning environments of their schools, and partnerships with parents and families.

Program Goals

The Elementary Education Program is designed to help the career teacher

- 1) strengthen her commitment to the goals of education in a democratic society and use the underlying principles of those goals to guide decisions about practice;
- 2) develop ways of working with families and other members of the community to reform schools so that all children may learn meaningfully and equitably;
- 3) become an active member of various professional communities, develop leadership abilities, and seek opportunities to function as a leader within those communities;
- 4) develop the disposition to strengthen both subject-specific and pedagogical knowledge-bases through systematic research and inquiry on practice;
- 5) construct (or revise) a conceptual framework for teaching and learning which reflects the philosophical, moral, and pedagogical complexities of teacher decisions about the education of culturally and developmentally diverse learners; and,
- 6) develop the disposition to reflect critically on the connection between her conceptual framework for teaching and learning (theory) and the effectiveness of her practice on diverse learners.

Requirements for a Master of Arts in Education: Elementary Education	Sem. Hrs.
Orientation to the M.A.Ed. in Elementary Education	0
Required Professional Studies Core	9
EDN 550. Applied Educational Psychology	
EDN 565. Applied Philosophy of Education	
EDN 566. Applied Educational Research	

Specialty Area Requirements

- | | |
|---|---|
| A. Theoretical Foundations of Practice | 9 |
| EDN 519. Literacy and Diversity (K-6) | |
| EDN 541. Curricular Contexts and Choices (K-6) | |
| EDN 553. Development, Culture, and Learning (K-6) | |
| B. Integrated Practice | 9 |
| EDN 517. Teaching and Learning Mathematics (K-6) | |
| EDN 520. Teaching and Learning Science (K-6) | |
| EDN 521. Teaching and Learning Social Studies (K-6) | |
| C. Electives (choose two) | 6 |
| 500 level courses in the academic disciplines: American Indian studies, art, biology, English, computer science, economics, geography, geology, history, mathematics, music, philosophy, physical education, physical science, political science, psychology, sociology; or, by arrangement, EDN 590. Advanced Practicum in Teaching or EDN 599. Independent Study. | |
| D. Capstone Course | 3 |
| EDN 595. Professional Development and Leadership Seminar | |

Total: 36

MASTER OF ARTS IN EDUCATION (M.A.Ed.) MATHEMATICS EDUCATION

Coordinator: William Truman

Sir Isaac Newton made the statement, "If I have seen further than others, it is because I have stood on the shoulder of giants." In this statement, Sir Isaac Newton gave the essence of mathematics; it is a body of knowledge accumulated through cultural and historical development, and it is a shared experience.

Program Description

The Master's of Arts in Education, Mathematics Education Program seeks to build upon the undergraduate degree through the extension of the width and breath of their mathematics background and through the enhancement of those skills and attributes which assist in the improvement of learning and teaching. The program's conceptual framework is based upon the premise of extending the experienced teacher's instructional background in those subject areas that are pertinent to the secondary curriculum: function, algebra, and geometry. The extension of the instructional background is contained within the casing of problem solving and research. Problem solving and research should promote data collection, analysis, reflective thought, conjecture, and assessment which provide collaborative leadership to other experienced practitioners. The growth will be demonstrated through the capstone project of the Portfolio and the comprehensive exams.

Program Goals

The educational objectives of the program are

1. to provide students with a solid foundation and understanding of mathematics;
2. to enable students through study to appreciate both the aesthetic and practical aspects of mathematics;
3. to provide experiences that will help students see that they will need to have a variety of teaching and learning strategies available at all times;
4. to provide students with current theories regarding the psychological development of the learner, and an understanding of human dynamics found in the home, the school, and the community;
5. to demonstrate methods of evaluating student learning, textbooks, curriculum educational techniques, and the educational process as a whole;
6. to prepare students to deal with a diverse population that have a broad spectrum of needs, aspirations, and expectations for themselves and others;
7. to provide a consideration of societal needs that are satisfied by applications of and careers based on mathematics and technology; and
8. to stress the importance to a teaching professional of keeping abreast of current trends in mathematics education through the reading of professional journals and participation in mathematics workshops, institutes, conferences, professional meetings, and inservice program.

Requirements for a Master of Arts in Education: Mathematics Education	Sem. Hrs.
Required Professional Studies Core	9
EDN 550 Applied Educational Psychology	
EDN 565 Applied Philosophy of Education	
EDN 566 Applied Educational Research	
Specialty Area Requirements	
A. Mathematics Education	6
MAT 500 Curriculum Development and Evaluation in Mathematics Education (Required)	
One additional course from the following:	
MAT 501 Theoretical Bases of Math Instruction	
MAT 502 History of Math (if not taken as undergraduate)	
CSC 505 Current Topics in Computers in Education	

1. Analysis (6 hrs)

Choose 2 of the 3 below; others may be used as electives

MAT 523 Real Analysis

MAT 532 Advanced Calculus for the Math Teacher

MAT 544 Complex Analysis for the Math Teacher

2. Algebra and Number Theory (3 hrs)

Choose one of the 3 below, others may be used as electives

MAT 512 Advanced Topics in Linear Algebra

MAT 515 Topics in Number Theory

MAT 526 Special Topics in Abstract Algebra

3. Geometry and Topology (3 hrs)

Choose 1 of the 2 below, others may be used as an electives

MAT 510 Point Set Topology (offered on alternate years.)

MAT 511 Advanced Topics in Geometry (offered on alternate years.)

4. Applied Mathematics (3 hrs)

MAT 503 Elements of Problem Solving (required)

MAT 506 Probability and Statistics for Math Teachers (use for elective only)

MAT 507 Discrete Math (use for elective only)

5. Mathematics Electives (6 hrs)

May be chosen from any math courses not taken to satisfy a program requirement.

6. Thesis option may replace 3 semester hours of the math electives.

MAT 600 Thesis in Mathematics Education

Total (minimum): 36

**MASTER OF ARTS IN EDUCATION (M.A.Ed.)
MIDDLE GRADES EDUCATION (6-9)**

Coordinator: Warren Baker

Area Coordinators:

Language Arts: Dennis Sigmon (Interim) Mathematics: William Truman
Science: Sue Bowden Social Studies: Kathleen Hilton

Program Description and Goals

The advanced Middle Grades Education degree program is designed for experienced teachers who possess or who are eligible to hold an "A" license in middle school education. Building on the background knowledge and experience of the classroom teacher, the two primary goals of the program are 1) to strengthen advanced academic competence through two teaching concentrations in the disciplines, and 2) to relate advanced understandings of the learner, learning process, curriculum, and instructional strategies to the unique need and characteristics of the emerging adolescent.

Students pursuing the M.A.Ed. are encouraged to complete the program's professional studies core within their initial 12 hours of graduate study. The specialty area course, EDN 526. *Foundations and Best Practices in the Curriculum of the Middle Grades*, is a capstone experience taken toward the completion of the student's program of study. All M.A.Ed. candidates are required to construct and present products of learning such as action research projects and professional portfolios which are aligned with the advanced Master's degree competencies.

Requirements for a Master of Arts in Education: Middle Grades Education	Sem. Hrs.
Required Professional Studies Core	9
EDN 550. Applied Educational Psychology	
EDN 565. Applied Philosophy of Education	
EDN 566. Applied Educational Research	
Specialty Area Requirements: Required and Guided Electives in Two Subject Areas	24
Students must complete two 12-semester-hour content area concentrations in Language Arts, Mathematics, Science, or Social Studies. Advanced study in any content area chosen for specialization requires foundation discipline knowledge sufficient for graduate-level work.	
1. Language Arts: (<i>two required courses + two electives</i>)	
Required courses: EED* 551 and EED* 552	
Two courses from the following: EED* 500, ENG* 510, 520, 523, 524, 525, 526, 550, 575, 514, 515, 516, 517, 537, 538, 539, 540, 562, 563, 564, 565, 566, 567, 568, 569	
2. Science: (<i>one required course + three electives</i>)	
Required course: SCE 560	
Physical Sciences (select at least one): PHY 520, 548, CHM 548, 520, GLY 501, 502	
Life Sciences (select at least one): BIO 510, 512, 525, 535	
At least one additional course from those listed above.	
3. Social Studies: (<i>one required course + three electives</i>)	
Required course: SSE 500	
Social Sciences: GGY 503, GLY 501, PLS 540, ECN** 503, AIS 505	
History: HST 510, 540, 550, 553, 556, 566, 575	
4. Mathematics: (<i>two required courses + two electives</i>)	
Required courses: MAT 500, 503	
Two courses selected from MAT 501, 502, 507, 506, 511, CSC 505	
Required Middle Grades Capstone Course	
EDN 526. Foundations and Best Practices in the Curriculum of the Middle Grades	3
Thesis	0-6
Independent Study	0-3
Total (minimum):	36

Note: For course descriptions, see *M.A. in English Education, **MBA

MASTER OF ARTS IN EDUCATION (M.A.Ed.) PHYSICAL EDUCATION

Coordinator: Tommy Thompson

Program Description

To enhance the physical educator's understanding and knowledge of human movement, the graduate program in Physical Education seeks to encompass the elements of biological study, fitness, wellness, health, recreation, and physical education into a directed, comprehensive study of the discipline and how to teach it. The graduate program must be broader than the undergraduate's physical education preparation, and to that end, will be a multi-disciplinary study that aims to help inservice teachers prepare for the teaching of physical education at all levels of learning and curriculum preparation. The program will seek to challenge the graduate student in all areas of advanced university study relative to the discipline and to teacher-effectiveness.

Program Goals

The graduate program in Physical Education is designed

1. to prepare physical educators in the field of human movement physiology as it relates in the teaching of physical education, athletics, and leisure activities;
2. to extend the graduate student's understanding of the basic principles of educational management, supervision, leadership, and/or administration;
3. to help the graduate student to understand the role of educational psychology in teaching, coaching, and administration;
4. to stress the importance of a sound understanding of legal issues in schools, athletes, recreation, and any movement education facility;
5. to help the graduate student to construct curriculum design in various phases of health, wellness, fitness, physical education, recreation, etc.;
6. to provide an expanded grasp of research trends in the teaching of human movement and healthful living;
7. to help the graduate student to understand the principles of facilities, finances, budgeting, funding, etc., in a variety of sectors; and
8. to help the graduate student to develop the ability to objectively review educational issues affecting students, families, sports, and schools.

Requirements for a Master of Arts in Education: Physical Education	Sem. Hrs.
Program Tracks of Study	
Required Professional Studies Core Courses	9
EDN 550 Applied Educational Psychology*	
EDN 565 Applied Philosophy of Education*	
EDN 566 Applied Educational Research	
Specialty Area Requirements	24
EXER 501 Exercise, Fitness, and Sport Physiology	
EXER 502 Exercise, Sport, and Coaching Psychology	
EXER 503 Management and Marketing of PE and Athletic Programs	
EXER 504 Recreation, Leisure, and Tourism	
EXER 505 Health, Wellness, and Fitness	
EXER 506 Current Administrative Issues, Problems, and Trends in PE and Athletics	
EXER 507 The Law in PE and Sport	
EXER 599 Thesis	

Specialty Area Guided Electives (select one of the following):	3
EDN 512 Exceptionality in Children*	
EDN 570 Educational Decision-Making*	
EDN 571 Analyzing Educational Issues*	
EDN 572 Ethical Decision-Making*	
EDN 573 School-Based Management*	
Administration Concentration (Choose any three courses below):	9
MPM 500 Modern Management and Organization**	
MPM 501 Organizational Behavior**	
MPM 504 Financial Resource Administration**	
MPM 510 Organizational Leadership**	
MPM 511 Planning**	
MPM 536 Administrative Law**	
MPM 538 Conflict Analysis and Resolution**	
MPM 552 Principles of Budgeting and Finance**	
MPM-HC 571 Health Administration and Organization**	
Total (minimum):	36

Lateral entry certification candidates may not enrol in any noted () EDN course until all of the IEP requirements have been completed.

**For course descriptions, see M.S. in Public Management

MASTER OF ARTS IN EDUCATION (M.A.Ed.) READING EDUCATION

Coordinator: Betty Wells Brown

Program Description

The Master of Arts in Education (M.A.Ed.) in Reading Education is designed for classroom and reading teachers to prepare them as leaders in the field of literacy instruction and as reading specialists. Since the program builds on the knowledge base and experience of the practitioner, teachers who enter the M.A.Ed. must be licensed to teach in North Carolina. Graduate study in reading education will enable teachers to develop expertise in the teaching of reading, the diagnosis and remediation of problems, and the development of successful reading programs. Teachers will also have opportunities to develop leadership competence in the design, delivery, and assessment of reading and services.

Special Program Admission Requirements:

Applicants who do not have a degree in a reading-related discipline such as elementary education, special education, or English/ language arts are subject to special program admission requirement(s), based on the program coordinator's evaluation of the applicant's transcript.

EDN 488 Foundations of Reading Instruction I

EDN 489 Foundations of Reading Instruction II

Program Goals

The program follows the standards and goals of the International Reading Association. The Program will prepare the teacher to

1. have responsibility of teaching literacy, including written and oral language skills: reading, writing, speaking, listening, viewing, and representing visually.
2. work cooperatively and collaborate with other professionals in planning programs to meet the needs of a diverse population of learners.
3. serve as a resource in the area of literacy education for teachers, administrators, school, and the community.
4. teach remedial, developmental reading and/or study skills at the elementary, middle, secondary or adult level.
5. direct organization, management, and assessment of school, district, or institutional literacy programs.
6. provide professional development services in cooperation with other professionals.
7. participate in scholarly activities, including creative works.

Requirements for a Master of Arts in Education: Reading Education

Sem. Hrs.

Professional Studies Core

9

EDN 550 Applied Educational Psychology

EDN 565 Applied Educational Philosophy

EDN 566 Applied Educational Research

Understanding and Using Language

9

EDN 515 Theory and Research in Literacy Development

EDN 522 Literacy and Literature

EDN 532 Culture, Communication, and Learning

Diagnosis, Assessment, and Intervention

9

EDN 534 Diagnosis and Correction of Reading Difficulties

EDN 574 Reading Practicum

EDN 575 Advanced Diagnosis of Reading Difficulties

Leadership and Issues in Reading Education

6

EDN 528 Designing and Evaluating Reading Programs

EDN 529 Capstone: Culture and Politics in Literacy Leadership

Electives (Choose One)

3

EDN 512 Advanced Study of Exceptionality in Children

EDN 530 Reading and Writing in the Content Areas

ENG 533 Second Language Acquisition*

EDN 535 Psychology of Reading

ENG 544 Process Writing: Theory*

ENG 545 Process Writing: Practicum*

EDN 599 Special Topics (Literacy)

Total: 36

*Note: For course descriptions, see M.A. in English Education

MASTER OF ARTS IN EDUCATION (M.A.Ed.) SCIENCE EDUCATION

Coordinator: Sue Bowden, Biology

Program Description

The primary purpose of the M.A.Ed. in Science Education Program is to prepare currently licensed North Carolina Secondary School Science Teachers for the N.C. Master's/Advanced Competencies License. The program requires 36 s.h. and is a logical extension of two undergraduate science teacher preparation programs currently offered at UNCP; one, the B.S. in Science Education Program and, two, the Biology Education program. Students who completed the B.S. in Science Education Program (science education majors) were eligible for the N.C. Secondary Comprehensive Licensure and were licensed to teach any and all of the science courses offered in N.C. Secondary Schools. Students who completed the Biology Education Program (biology education majors) were eligible for the N.C. Secondary Biology Licensure and were limited to teaching only biology.

The M.A.Ed. in Science Education has been designed to provide an opportunity for science teachers who hold either the comprehensive Science License or the Biology License to enter the program and qualify for the N.C. Master's/Advanced License.

While in the M.A.Ed. Program, the former undergraduate science ed. major will be required to concentrate in one of four areas of science (12 s.h. in Biology, Chemistry, Physics, or Earth Science) and take nine additional s.h. in the three areas outside of the concentration (no more than 3 s.h. from any one area). The former undergraduate biology ed. major will concentrate in biology (15-18 s.h.) and take an additional 3 s.h. to 6 s.h. in an area or areas outside of biology. Both groups will also take a required core of professional education courses (9 s.h.) and six additional s.h. in science education.

The M.A.Ed. in science education will build upon the instructional expertise and leadership qualities and skills of an experienced licensed science teacher by requiring the following qualifications prior to full admission into the program:

1. the applicant must hold either the N.C. Secondary Science Comprehensive License or the Secondary Biology License. Any out-of-state applicants will have to hold licenses deemed equivalent to the N.C. licenses.
2. the applicant must meet all of the graduate school general admission requirements.

Program Goals

The major goals of the program are designed to prepare a student to be able to

1. apply the theoretical, philosophical, and research bases for educational practice in secondary school classrooms to improve student learning;
2. plan, implement, and evaluate instruction that is philosophically consistent with the Constructivist viewpoint;
3. incorporate knowledge of the nature of the learner, learning process, variations in learning abilities and learning styles, and strategies for evaluating learning in the secondary school classroom;
4. plan, implement, and evaluate instruction that is responsive to wide variations in students' learning needs and learning styles;
5. understand and employ methods of research to examine and improve instructional effectiveness and student achievement, particularly in the Constructivist science classroom;
6. understand and link subject matter and students' developmental and diverse needs in the context of secondary science classrooms;
7. plan, implement, and evaluate instruction that reflects intellectual rigor and depth of knowledge in both science content and students' diverse learning needs; and
8. demonstrate self-directed, self-reflective professional behavior and the importance of providing leadership to colleagues and communities through collaboration and participation in state and national science education organizations.

Requirements for a Master of Arts in Education: Science Education	Sem. Hrs.
Required Professional Studies Core	9
EDN 550 Applied Educational Psychology	
EDN 565 Applied Philosophy of Education	
EDN 566 Applied Educational Research	
Specialty Area Requirements	
Science Education Core	6
SCE 560 Foundations of Science Education (required)	
Choose one of the following:	
SCE 561 Improving Classroom Instruction in the Life and Earth Sciences	
SCE 562 Improving Classroom Instruction in the Physical Sciences	
SCES 563-573 Special Topics in Science Education	
A concentration in one of these areas (12 hours)	12
(note: Biology Education majors may choose 15-18 hours in Biology)	
Biology (required for undergraduate Biology Education majors)	
BIO 510 Marine Biology	
BIO 512 Topics in Ecology and Environmental Biology	
BIO 514-534 Special Topics in Biology	
BIO 515 Advanced Microbiology	
BIO 520 Current Trends in Molecular and Cell Biology	
BIO 525 Evolutionary Botany	
BIO 535 Evolutionary Zoology	
Chemistry	
CHM 520 Current Trends in Chemistry	
CHM 548 Historical Perspectives on Chemistry	
CHM 550 Spectroscopic Methods of Structure Determination	
CHM 560 Instruments for Chemical Analysis	
Earth Science	
GLY 501 Earth Science	
GLY 502 Earth History	
GLY 504 The Physiography and Ecology of the Atlantic Coastal Plain	
GLY 541 Meteorology and Climatology	
Physics	
PHY 501 Classical Mechanics	
PHY 516 Modern Physics	
PHY 520 Current Trends in Physics	
PHY 548 Historical Perspectives of Physics	
Additional courses in the three areas outside of the concentration	9
(note: Science Education majors choose no more than 3 s.h. from any one area; Biology Education majors may choose 3-6 s.h. outside the Biology concentration)	
Biology: BIO 512 or 520	
Chemistry: CHM 520 or 548	
Earth Science: GLY 501 or 502	
Physics: PHY 520 or 548	

Total: 36

**MASTER OF ARTS IN EDUCATION (M.A.Ed.)
SOCIAL STUDIES EDUCATION**

Coordinator: Kathleen C. Hilton

The Master of Arts (M.A. Ed) in Social Studies Education program is a rigorous program of study for experienced teachers who wish to increase their own knowledge, enhance social studies instruction for their students, and exercise professional leadership in social studies curriculum development within their schools. It builds upon and extends the multiple goals of UNC Pembroke's undergraduate social studies education program. The history and social science requirements are carefully structured to provide breadth of coverage and self-selected areas of concentration.

The Master of Arts in Education: Social Studies Education program will enable students to

1. strengthen their history and social science knowledge base and analytical skills;
2. enhance their understanding of the structure and methods of the individual academic disciplines and, therefore, their ability to make the material interesting and comprehensible to their students;
3. become familiar with recent curriculum reform initiatives which have particular relevance for social studies teachers, including the essential thematic strands identified by the National Council for the Social Studies and the national standards developed for each content area;
4. integrate recent scholarship and professional trends with their own classroom experiences;
5. evaluate available technology resources (hardware and software) and determine their suitability for instructional purposes; and
6. assume professional leadership roles in curriculum development, instructional planning, and advocacy for social studies as an essential component of K-12 education.

Students will complete a capstone product of learning and, with the guidance of a "project committee" from the relevant academic discipline(s), prepare a professional presentation for colleagues prior to graduation.

Requirements for a Master of Arts in Education: Social Studies Education	Sem. Hrs.
Required Professional Studies Core	9
EDN 550 Applied Educational Psychology	
EDN 565 Applied Philosophy of Education	
EDN 566 Applied Educational Research	
Specialty Area Requirements	
Advanced Methods	3
SSE 500 - Social Studies Curriculum Transformation	
History (4 courses; 3 required courses and one elective)	12
Required Courses: Select one course from each category.	
1. Asian, African, Latin American History	
HST 550 - Topics in Asian History	
HST 553 - Topics in African History	
HST 556 - Topics in Latin American History	
2. European History	
HST 560 - Topics in European History to 1500	
HST 565 - Topics in European History since 1500	
3. U. S. History	
HST 570 - Topics in U.S. History to 1890	
HST 575 - Topics in U.S. History since 1860	
Elective: Select one additional course from the following:	
HST 510 - Advanced North Carolina History	
HST 520 - History of the South	
HST 540 - Topics in History	
HST 550, 553, 556, 560, 565, 570, or 575. No topic may be repeated.	

Social Sciences (4 courses)

12

Select two courses from *one* category (a, b, or c) (6 hours)

- a. ECN 503 and ECN 515
- b. GGY 503 and GGY 505
- c. PLS 540 and 545

Select two courses from any two of the fields not selected above (6 hours)

American Indian Studies: AIS 505

Economics: ECN** 503 or ECN** 515 or MPM* 503 or MPM* 552

Geography: GLY 501 or GGY 503

Political Science: PLS 540 or PLS 545

Psychology: PSY*** 545

Total: 36

Note: For course descriptions, see *M.S. in Public Management, **MBA, ***M.A. in School and Service Agency Counseling

COURSES

AMERICAN INDIAN STUDIES DEPARTMENT (AIS)

AIS 505. Contemporary Issues of American Indians

This seminar-style course examines major issues of American Indians in the 20th century. Both local and national in scope, topics to be addressed include: politics, economics, treaty relationships with federal and state governments, education, alcohol and substance abuse, the environment, cultural identity, relations with non-Indians, religious freedom, land and water rights, tribal sovereignty, and other issues as they arise. Alternate fall.

ART DEPARTMENT (ART)

ART 500. Art in the Elementary School (3)

This course is designed to provide the general classroom teacher with various aspects of extending content information with art. Emphasis will be placed upon philosophies associated with elementary school art education, extending content information, art curriculum for the exceptional child, and the use of specific art tools, media, materials, and techniques. Students will acquire competency in instruction and art production to enhance active learning in the classroom.

ART 501. Survey of Art Education (3)

Provides survey of development of art education and problems in the field by means of a critical inquiry. Trends and Issues are examined. Prerequisite: graduate standing.

ART 502. Curricula in Art Education (3)

Advanced study of art education curricula, with option for elementary or secondary emphasis. Study of exemplary art programs, standards of quality, curriculum models, curriculum design and construction, concomitant instructional methods, and evaluation. Prerequisite: graduate standing.

ART 503. Research in Art Education (3)

Studies of appropriate research methodologies, research and selected readings in art education. Includes research procedures in art education, recent studies, areas needing further research, Prerequisite: graduate standing.

ART 504. History and Philosophy of Art Education (3)

Critical analysis of objectives, current theories, and texts that are shaped by the visual arts, history, philosophy, aesthetics, the behavioral sciences, and recent trends in art education. The sociopolitical currents that have shaped art education, and visual art itself, are examined. Prerequisite: graduate standing

ART 505. The Teaching of Art History in the Art Education Classroom (3)

Recent theories in the fields of art education concerning curricula in art history. This course includes the development of competency in art history, methods and diverse inquiry procedures. Prerequisite: graduate standing

ART 510. Independent Study (3-12)

This course is designed to fulfill individual and specific needs of art education graduate students' particular area of advanced study. Directed reading, research, production and problem solving in the student's area or areas of art studio elective(s) or art studio concentration are carried out by the student at the University and in the field under the supervision of the student's major advisor and instructor. Course is repeatable with consent of the instructor. Prerequisites: Graduate standing and, for Thesis Option II, the student must submit a portfolio of slides of her or his work to indicate his or her competence in selected studio concentration.

ART 600. Thesis in Art Education (6)

The student prepares a Master's Degree thesis in the area of the student's major under the individual direction of the student's major advisor and thesis committee. Graded on a Satisfactory (Pass [P]), Unsatisfactory (Fail [F]) basis. Prerequisites: Completion of 21 semester hours of graduate work; EDN 566; permission of the student's major advisor; permission of the Dean of Graduate Studies.

BIOLOGY DEPARTMENT (BIO)**BIO 510. Marine Biology**

A survey of the common organisms associated with tropical marine habitats. Emphasis will be on fish, invertebrates, algae, and birds. Coverage will include discussions of the coral reef and mangrove communities, ocean currents, and physical and geological factors. The course includes a one-week on-campus study followed by a one-week field, lab work at the Bermuda Biological Station for Research. There are additional costs involved in the trip.

BIO 512. Topics in Ecology and Environmental Biology

Students will become cognizant of the principles of ecology and environmental biology through analysis of the interactions of organisms with each other and their interactions with the physical environment. The impact of humans and human systems on the natural world will be examined. The interaction of ecological, geological and human processes is examined at regional, national, and global scales. Human management of fragmented landscapes will be discussed. Certain topics may be emphasized according to the expertise of the instructor.

BIOS 514-534. Special Topics in Biology (1-4 hours)

The course content will vary from offering to offering. It will meet the special needs of individuals within the master's program at UNCP and of students who seek credit by enrolling in special departmental offerings such as short courses, seminars, and special, intense summer experiences which focus on concepts within the discipline of biology. Offerings will be on an announced basis.

BIO 515. Advanced Microbiology

An introduction to the structure, metabolism, genetic control, growth and evolution of microorganisms, with emphasis on eubacteria, archaebacteria, viruses, and other subcellular entities; microbial activities, their interactions and the application of microbiological approaches in addressing problems which exist in today's environment will also be presented.

BIO 520. Current Trends in Molecular and Cellular Biology

This course is designed to provide the student with an awareness and appreciation of the rapidly changing trends in molecular and cellular biology. Discussion will include the medical potential and ethical issues raised by developments in these areas. Topics of discussion will include cloning, gene therapy, etc.

BIO 525. Evolutionary Botany

A survey of all photosynthetic organisms with emphasis on phylogenetic relationships. Topics covered will include early evolution of life and the part photosynthesis played, three billion years of evolution restricted to the aquatic habitat, and evolution of terrestrial plants over the last half billion years.

BIO 535. Evolutionary Zoology

A review of the basic workings of science, evolutionary concepts, and the animal kingdom. Topics will also include animal fossils, morphological & behavioral phylogeny, and human evolution.

CHEMISTRY AND PHYSICS DEPARTMENT (CHM/GGY/GLY/PHY)**CHM 520. Current Trends in Chemistry**

A survey of current developments and trends in the various fields of chemistry.

CHM 548. Historical Perspectives of Chemistry

This course emphasizes the development of physical concepts in the discipline of chemistry from the earliest records through Aristotle, the alchemist and beyond, to the present. Topics include contributions of such scientists as Boyle, Lavoisier, Dalton, Mendeleev, Rutherford, and others. Discussions concerning their methods, motives, and the mental and social climate of their time are also included.

CHM 550. Spectroscopic Methods of Structure Determination

The student will be introduced to the process by which the modern organic chemist determines the

atom-to-atom structure of organic molecules. A review of empirical and molecular formulas, and what can be learned from them, is included. However, the major focus of the course will be teaching the student about the use of a number of instrumental techniques that is used in the elucidation of individual molecular structures. The specific techniques, and how they relate to molecular structure determination, include: UV-VIS (ultra violet-visible spectroscopy), IR (infrared spectroscopy), Mass Spectrophotometry (simulated data only), and various introductory and advanced NMR (nuclear magnetic resonance spectroscopy) techniques, including Proton and Carbon-13, COSY, DEPT, and HETCOR.

CHM 560. Instruments for Chemical Analysis

A course examining the theory and operation of instrumentation used for quantitative and qualitative analyses of matter. A combination of lecture and laboratory activities will develop both student knowledge of and skills in a variety of modern spectroscopic, electrochemical and chromatographic techniques.

GGY 503. Descriptive Regional Analysis

Qualitative definition of geographical regions in the light of human interests: physical, biotic, demographic and socio-cultural determinants; the relevance of regional factors for planning and policy issues in education, government, the economy, and the general welfare.

GGY 505. Geographics

Visualization of spatial data. Utilization of mapping software to create high quality graphics for interdisciplinary analysis in business, marketing, education, demographics, etc. Study of contemporary advances in computer mapping technology and geographic information systems.

GLY 501. Earth Science

Advanced study of topics in geology, meteorology, oceanography, and solar system astronomy.

GLY 502. Earth History

An Advanced study of earth history as recorded in the rock record. Topics include geologic time; evolution of the continents, oceans and atmosphere; fossils and the development of life through time; and the historical development of geologic concepts. Prerequisites: GLY 501 or permission of the instructor.

GLY 504. Physiography and Ecology of the Atlantic Coastal Plain

A systematic study of the physical and cultural setting of the Atlantic Coastal Plain. Topics include soils, water, vegetation, landforms (including extensive study of Carolina bays), weather and climate, population, settlement and resource use. The course includes weekend field trips.

GLY 541. Meteorology and Climatology

Analysis and presentation of weather and climate information. Emphasis on explanatory methods in basic meteorology. Graphical representation and modeling of weather elements, atmospheric processes and climate regions.

PHY 520. Current Trends in Physics

A survey of current development and trends in the various fields of physics.

PHY 548. Historical Perspectives of Physics

This course emphasizes the development of physical concepts in the discipline of physics from the earliest records through Aristotle, Einstein and beyond, to the present. Topics include contributions of such scientists as Copernicus, Galileo, Newton, Boyle, Rutherford, Millikan, Bohr, DeBroglie, Schroedinger, and others. Discussions concerning their methods, motives and the mental and social climate of their time are also included.

PHY 550. Classical Mechanics

Newtonian mechanics, linear oscillations, non-linear oscillations, introduction to calculus of variation. Hamilton's principle and La Grange's equations, central force motion, non-inertial frames, rigid body dynamics, vibrating systems.

PHY 560. Modern Physics

Special theory of relativity; introductory quantum mechanics with applications to microscopic systems; Fermi-Dirac, Bose-Einstein statistics; and electronic bands in solids.

SCHOOL OF EDUCATION (EDN)**EDN 500. Educational Leadership (3 hours)**

Required of candidates for the Master of Arts in Education degree who are preparing for licensure as principals or supervisors. Emphasis is given to educational purposes, school program development, group leadership functions, management of school facilities, community-school interaction, and intraschool and interschool coordination.

EDN 501. Principles of Supervision (3 hours)

Analysis of issues, problems, and practices in supervision of instruction. Development and synthesis of a conceptual structure for guiding group process and individual leadership behavior in curriculum research and development, inservice education, and evaluation of teaching and learning.

EDN 502. Legal Structures in Education (3 hours)

Constitutional, statutory, and case law bases of educational administration; a study of legal provisions and principles relating to education at all levels. Includes research and analysis of laws dealing with pertinent educational topics.

EDN 503. School Finance (3 hours)

Problems relating to financing public education; theory of taxation, types of taxes; current practices of educational finance; federal, state, and local support of education formulas for distribution of school aids; budget; procuring revenue; financial capital outlays. Financing school plant construction; maintenance of the plant; insurance of property; taking inventory; and school supplies. Includes the construction of a school budget.

EDN 505. School Facilities (3 hours)

Study of the problems involved in financing the construction of school facilities, the procurement of architectural services, the cooperative development of educational specifications, and the construction of school facilities. Includes the management of school facilities for maximum and optimal use; planning for equipment acquisition, circulation and maintenance; and the analysis of the facilities problems of schools and school systems.

EDN 506, 507. Internship and Seminar in Administration and/or Supervision

The internship is a significant part of the Master's program in Administration and Supervision, involving experiences under the supervision of a selected professional practitioner chosen for the internship. The internship is coordinated by a University faculty member. Plans for the internship must be made in advance with the faculty advisor, after appropriate course work, and in terms of available practicum opportunities in instructive and administrative aspects of an individual school and/or school system and approved by the Office of the Graduate Program.

EDN 512. Advanced Study of Exceptionality in Children (3 hours)

An introduction to and an analysis of the principles, problems, characteristics, and psychological aspects of children who have mental retardation; learning disabilities; visual impairments; hearing handicaps; communication disorders; behavior disorders multiple, severe, and physical handicaps; as well as talents and gifts. Contemporary issues in special education as they relate to the inservice educator are explored.

EDN 513. Individualized Program Development for Exceptional Students (3 hours)

The focus of this course is the development and implementation of individualized educational programs for the total development of exceptional students. Topics include legal requirements, assessing individual performances, placement and related services, developing long-range and short-term objectives, monitoring and evaluating the IEP, and conferencing/communication skill-building.

EDN 514. Management of Exceptional Students in the General Classroom (3 hours)

This course is designed to provide the general classroom teacher and administrative supervisory personnel with a study of the instructional and behavioral techniques, materials, and resources used in the education of mainstreamed students. Emphasis is on disabled, educable mentally handicapped, and emotionally handicapped students.

EDN 515. Theory and Research in Literacy Development (3 hours)

This course is a study of the theory and research related to literacy and language development in childhood and adolescence, including second language acquisition. The social, psychological, and cultural influences on language and literacy learning in both the home and school are examined. Students use theoretical and research foundations to conduct classroom based-research to improve literacy learning.

EDN 516. Curriculum Development (K-12) (3 hours)

Principles, techniques, trends, and innovations which have emerged in the field of curriculum construction and revision. Implications of basic social, philosophical, and psychological factors in curriculum planning and organization; historical background; techniques of curriculum planning and development. The student will acquire competency in the employment of techniques and practices to improve instruction, such as core curriculum, cultural epochs, correlation of subject matter, and unit construction.

EDN 517. Teaching and Learning Mathematics (K-6) (3 hours)

This course helps teachers improve student learning in mathematics through systematic analysis and reflection on cycles of teaching and learning. Focus is on matching curriculum, instructional design, desired learning outcomes, content, diverse learners, instructional resources, and assessment measures in the context of mathematical reasoning and problem-solving. Teachers will design theme-based units integrating two other content areas, implement the units with their own students, analyze select student work samples, and learn from critical self-reflection on the teaching cycle. *Prerequisites: EDN 553, EDN 519, EDN 541.*

EDN 519. Literacy and Diversity (K-6) (3 hours)

The purposes of this course are to help teachers construct a conceptual framework based on knowledge about the cognitive, social, biological, emotional, cultural bases of language and to learn how to use that framework to individualize curriculum, instruction, and assessment in reading, writing, speaking, listening, and viewing. Teachers will also connect long-term literacy goals to learning in other content-areas through children's literature, expressive/transactional/poetic written discourse, and the creative arts. Teachers will explore ways to actively involve families in their children's literacy development. *Prerequisites: EDN 550, 565, 566 or permission of the instructor.*

EDN 520. Teaching and Learning Science (K-6) (3 hours)

This course helps teachers improve student learning in science through systematic analysis and reflection on cycles of teaching and learning. Focus is on matching curriculum, instructional design, desired learning outcomes, content, diverse learners, instructional resources, and assessment measures in the context of scientific methods and ways of knowing. Teachers will design theme-based units integrating two other content areas, implement the units with their own students, analyze select student work samples, and learn from critical self-reflection on the teaching cycle. *Prerequisites: EDN 553, EDN 519, EDN 541.*

EDN 521. Teaching and Learning Social Studies (K-6) (3 hours)

This course helps teachers improve student learning in social studies through systematic analysis and reflection on cycles of teaching and learning. Focus is on matching curriculum, instructional design, desired learning outcomes, content, diverse learners, instructional resources, and assessment measures in the context of developing global understandings. Teachers will design theme-based units integrating social studies and the creative arts, implement the units with their own students, analyze select student work samples, and learn from critical self-reflection on the teaching cycle. *Prerequisites: EDN 553, EDN 519, EDN 541*

EDN 522. Literacy and Literature (3 hours)

A survey of children's/adolescent fiction, non-fiction, and other reading materials, including instructional technology resources. Methods for leveling and choosing appropriate material for diverse cultural and linguistic backgrounds are reviewed. A major focus is the relationship between the reader and the literary text, the reading process, and the implications for reading instruction and comprehension skills.

EDN 526. Foundations and Best Practices in the Curriculum of the Middle Grades (3 hours)

During this capstone experience students will participate in an advanced study of foundations and curriculum in the middle grades utilizing research-based sources. Implications of historical, philosophical, social, psychological, physical, and intellectual factors in curriculum planning. Focus on current trends, issues, innovations, and models. Special components include a clinical experience, reading and writing across the curriculum, meeting diverse student needs, technology applications, developing peer leadership/mentoring skills, reflection/diagnosis/prescriptive instruction, instruction and development as master teachers, and action research. In addition, the culmination of the student portfolio will be facilitated through this course. The instructor of record for EDN 526 and the Middle Grade Program coordinator will jointly evaluate student portfolios for program completion. *Prerequisite: EDN 565, EDN 566, EDN 550.*

EDN 527. Practicum in Reading Instruction (3 hours)

Designed for the graduate student with previous teaching experience who is interested in pursuing research in the area of reading.

EDN 528. Designing and Evaluating Reading Programs (3 hours)

A study and evaluation of selected curricula and programs in reading and the planning of a total school reading program. Teachers visit and evaluate exemplary school reading programs. Special emphasis will be given to the leadership functions of a reading teacher in diverse roles in terms of coaching classroom teachers and administrators in the improvement of reading instruction and involving students' families in literacy development.

EDN 529. Capstone: Culture and Politics in Literacy Leadership (3 hours)

The course focuses on how ideas about various aspects of literacy become policy and legislation, how to understand the positions of special interest groups in the community, and how to influence policy, legislation, and local district/school decisions. Teachers learn how to utilize professional resources, technology resources, and advocacy strategies to ensure that all students learn to read. Program portfolios and leadership projects are finalized and presented for review.

EDN 530. Reading and Writing in the Content-Areas (3 hours)

This course is designed to provide teachers with knowledge of established and innovative practices of teaching in a variety of content-areas, such as mathematics, social studies, and health.

EDN 531. Principles of Testing and Measurement in Reading (3 hours)

This course provides a fundamental development of the features and roles of measurement in reading education with emphasis being given to understanding teacher-made and standardized tests and scales. Consideration will be given to statistical concepts of measurement as they apply in reading education.. *Prerequisite: 9 semester hours of previous course work in reading.*

EDN 532. Culture, Communication, and Learning (3 hours)

This course is an in-depth study of theory, research, and pedagogy related to the racial, ethnic, gender, socioeconomic, and regional variances in communication structure and style. Focus is on how cultural variance affects student achievement and teacher expectations. The need for culturally responsive teaching is emphasized; related strategies are explored.

EDN 533. Leadership for Classroom Reading Instruction (3 hours)

This course is designed to aid the special reading teacher in filling several diverse roles within a school setting. Special emphasis will be given to the roles of lead-teacher and resource-teacher especially in

terms of aiding the classroom teacher with developmental and corrective reading classes. The course will include a supervised field-based component whereby the student gains practical experience working in leadership roles with classroom teachers. *Prerequisite: EDN 528, EDN 530, and 6 semester hours of additional graduate level course work in reading.*

EDN 534. Diagnosis and Correction of Reading Difficulties (3 hours)

This course will assist the teacher of reading in locating causes of reading difficulties and prescribing corrective procedures. It is designed to give the classroom teacher practical application of methods in solving reading problems. It will include sample lessons and demonstration of remedial methods.

EDN 535. Psychology of Reading (3 hours)

A study of the psychological factors in learning to read, in reading ability, in reading disabilities, and in the bases for instructional methods and materials in reading.

EDN 538. Advanced Diagnosis of Reading Difficulties (3 hours)

This course is designed to provide the reading teacher with advanced study in the determination and evaluation of reading difficulties. Students will be expected to complete, under supervision, in-depth case studies of children with suspected reading difficulties. *Prerequisite: EDN 534 or the equivalent.*

EDN 539. Reading Clinic (3 hours)

This course is designed to provide the reading teacher with practical experiences remediating students' reading difficulties. The reading teacher will work one-on-one and with small groups of children in a supervised laboratory setting. *Prerequisite: EDN 538, or may be taken concurrently with EDN 538.*

EDN 540. Preparation and Selection of Materials for Teaching Reading (3 hours)

This advanced level course is designed to enable the reading teacher to evaluate and select materials in terms of specific instructional situations and needs. Additional emphasis will be given to the processes of design, development, and preparation of instructional materials for specific reading instructional needs. *Prerequisite: 15 semester hours of graduate level course work in reading; recommendation of graduate advisor; and consent of instructor.*

EDN 541. Curricular Contexts and Choices (K-6) (3 hours)

This course helps the teacher use conceptual frameworks for teaching and learning to prepare an environment for learning. Teacher decisions during the preparation phase include 1) the establishment of long-range goals for groups of learners and individual learners, 2) the selection of measures to assess those goals, 3) the organization, structure, and sequence of the curriculum, 4) approaches to learner motivation and engagement, 5) the organization of children for learning, 6) establishing routines for managing learners and teaching tasks in the learning environment, 7) selection, development, and acquisition of instructional resources, 8) communication and involvement of families, 9) accommodating the environment for special needs children, and 10) establishing team and collaborative efforts with colleagues and other resource persons in the school and community. *Prerequisites: EDN 550, 565, 566 or permission of the instructor.*

EDN 550. Applied Educational Psychology (3 hours)

Emphasis is on using principles of learning, development, motivation, management, and assessment to validate and/or modify teacher decisions about the diverse needs of learners in socially responsible learning environments. Students design improvement plans based on areas such as multiple intelligence theory, cognitive processing, brain research, cooperative learning, inclusion, multiculturalism, and discipline.

EDN 552. Psychology of the Emerging Adolescent (6-9) (3 hours)

An analysis of the implications of physical, cognitive, socio-emotional, and moral development as they influence the behavior, learning, and adjustment of emerging adolescents. The theories of Ericson, Piaget, and Adler will be examined. Practical classroom application of theory and research will be emphasized.

EDN 553. Development, Culture, and Learning (K-6) (3 hours)

The purpose of this course is to help teachers develop contextualized perceptions of diverse learners and their educational needs based on information about children's family life, culture, and stage of development (typical or atypical). Teachers will learn how to establish a baseline for children's development and learning, accommodate developmental and cultural diversity in groups of learners, and align curriculum. Teachers will explore ways to actively involve families in their children's education. *Prerequisites: EDN 550, 565, 566 or permission of the instructor.*

EDN 560. Sociological Foundations of Education (3 hours)

Contemporary social problems and subcultures which relate to patterns of public education. A sociological analysis of the nature of the school and its impact on the community and on patterns of instruction. Anthropological and sociological materials will be employed.

EDN 565. Applied Philosophy of Education (3 hours)

Emphasis is on acquiring the knowledge, skills, and dispositions needed for reflective teaching, including the articulation of a philosophical theoretical position on teaching, language, and learning for use in planning, implementing, and evaluating practice. Students will analyze the philosophical and theoretical assumptions underlying various models of teaching and, learning. The process of constructing a professional portfolio based on NBPI'S guidelines frames course activities.

EDN 566. Applied Educational Research (3 hours)

Emphasis is on understanding research designs and methods in education including an introduction to elementary statistics, interpreting and critiquing professional research literature, using research findings to validate and modify decisions about teaching and learning, and conducting action research in the classroom, school, and community.

EDN 570. Educational Decision Making (3 hours)

This course is designed to provide students with the knowledge and skills to evaluate educational programs in both formative and summative manners and to address educational problems in light of the best available research.

EDN 571. Analyzing Educational Issues (3 hours)

This course provides students with opportunities to critically analyze current educational issues from a variety of perspectives and disciplines including education, history, philosophy, anthropology, sociology, the law, and political science. This is a speaking and writing intensive course.

EDN 572. Ethical Dimensions of Decision Making (3 hours)

This course explores the dynamic and complex context of educational decisions. Ethical and societal aspects of decisions are studied.

EDN 573. School-Based Management (3 hours)

This course focuses on school quality and the elements essential to administer and operate schools in a manner that supports quality education. Specific aspects of quality considered are: the school as a system and a renewing learning organization, team leadership and school-based decision making, school culture and climate, human and material resources, school reform, and relationships of the state, local district, school, and community.

EDN 574. Reading Practicum (3 hours)

In this course, students have practical experience remediating diverse students' reading difficulties in classroom settings, using a variety of instructional, management, and assessment strategies. Review and critique sessions with colleagues are conducted at spaced intervals during the course.

EDN 575 Advanced Diagnosis of Reading Difficulties (3 hours)

In this course, teachers work one-on-one or in small groups of children in a supervised laboratory setting. Published case studies are analyzed and original case-studies developed which include observations, use of evaluation methods, proposed correction strategies, implementation plans, and critical reflection on the planned intervention. Case studies are presented to colleagues for review and refinement.

EDN 590. Advanced Practicum in Teaching (K-6) (3 hours)

A support seminar for M.A.Ed. candidates during the year they are completing the application process for National Board Certification, including preparation for written assessments. A National Board Certified teacher, a faulty advisor, and or an NBC evaluator will be part of the support group. *By arrangement. Fall. Prerequisite: Completion of M.A.Ed. course requirements*

EDN 595. Professional Development and Leadership Seminar (3 hours)

This is the capstone experience for teachers completing the M.A.Ed. in Elementary Education. Teachers integrate the knowledge and insights gained from experiences in previous courses into final revisions of their conceptual frameworks and related plans. Based on updated self-assessment, teachers also develop goals for future professional development. Leadership projects are finalized, published and submitted for review by the elementary education graduate faculty. *(Teachers choosing National Board Certification as a program product will apply for candidacy at this time.)*

EDN 599. Independent Study (3 hours)

An independent study of the problems and issues of education relevant to the student's major study areas or areas of concentration carried out by the student at the University and in the field under the supervision of the student's major advisor.

EDN 600. Thesis in Education (3 - 6 hours)

The student prepares a Master's Degree thesis in the area of the student's major under the individual direction of the student's major advisor and thesis committee. Graded on a Satisfactory (Pass [P]), Unsatisfactory (Fail [F]) basis. *Prerequisite: Completion of 2I semester hours of graduate work; EDN 566; permission of the student's major advisor; and permission of the Dean of Graduate Studies.*

HEALTH, PHYSICAL EDUCATION, AND RECREATION DEPARTMENT (EXER)**EXER 501. Exercise and Sport Physiology in the School Curriculum (3)**

Course will present concepts of exercise and sport physiology in a practical approach based on researched principles of exercise physiology and applied science as it pertains to various grade levels. Movement analysis of the human body will be studied as to variables, exercise responses, training principles, adaptation, problem-criteria, and modalities. Physiological response in every body system will be explored relevant to various age groups and gender.

EXER 502. K-12 Exercise, Sport, and Coaching Psychology (3)

Course will examine topics related to the potential for optimal human athletic and exercise performance at various life stages. Areas of study will include functional behavior, behavior modification, psychology of human and work motivation, self-assertion, personality, gender differences, visual and auditory perception, and stages and processes of behavior development and decision-making.

EXER 503. Management and Marketing of School PE and Athletic Programs (3)

Course will present a detailed study of marketing principles from the perspective of a school administrator, physical educator, coach, sportsman, athletic director, and/or other related fitness/sports administrators. Specific items of study would include marketing concepts, customer analysis, activity promotion, etc. Management structure and organization will be researched thoroughly. Advertising, public relations, and media strategies will be addressed.

EXER 504. Principles of Recreation and Leisure Activities (3)

A comprehensive study of the basic concepts of organized recreation and its philosophy and implementation. An in-depth overview of practices, methods, and processes of leadership, supervision, staff development, etc. as well as a thorough examination and study of the organization and administration of recreation management, logistics, legal issues, etc.

EXER 505. Health, Wellness and Fitness in the School Curriculum (3)

Course will include in-depth coverage of the dimensions of health, wellness & fitness. The course is intended to provide knowledge and skills that will enable humans to achieve an optimal healthy lifestyle regardless of age or gender. Emphasis will be placed on making correct choices based on

sound principles of researched and applied science and human biological study. The course will present the various options, strategies, issues and implications surrounding the bases of human wellness.

EXER 506. Current Education Issues in PE and Athletics (3)

Course will be designed for formulating, designing, and implementing meaningful research into timely and practical educational issues in physical education and/or athletics. The study of a particular topic(s) of special importance, relevance, and currency to physical educators, athletic directors, coaches, fitness coordinators, department chairs, etc. will be the main theme. Course content may vary with each offering.

EXER 507. The Law in PE and Sport (3)

Course will be a thorough investigation and review of the legal and judicial issues, cases, and history of litigation in physical education and sport. Case research, analysis of law, and current legal issues that apply to physical educators and coaches will be examined in detail. Professional liability, statutory, and landmark cases in movement education will be studied.

EXER 599. Thesis

HISTORY DEPARTMENT (HST/SSE)

Social Studies Core Course

SSE 500. Social Studies Curriculum Transformation (3 hours)

This course enables students to transform social studies instruction by incorporating recent scholarship and innovative teaching strategies in the social studies classes they teach. Topics will be addressed in a way designed to facilitate synthesis of academic learning and classroom experience, and aligned with advanced professional standards. *Prerequisite: Formal admission to the M.A.Ed.: Social Studies Program*

Asian, African, Latin American History

HST 550 - Topics in Asian History

The course will examine a specific region, period, or theme in Asian history. Topics will vary, determined by the instructor's specialty.

HST 553 - Topics in African History

The course will examine a specific region, period, or theme in African history. Topics will vary, determined by the instructor's specialty.

HST 556 - Topics in Latin American History

The course will examine a specific region, period, or theme in Latin American history. Topics will vary, determined by the instructor's specialty.

European History

HST 560 - Topics in European History to 1500

The course will examine a specific region, period, or theme in European history prior to 1500. Topics will vary, determined by the instructor's specialty.

HST 565 - Topics in European History since 1500

The course will examine a specific region, period, or theme in European history since 1500. Topics will vary, determined by the instructor's specialty.

United States History

HST 570 - Topics in U.S. History to 1890

The course will examine a specific period or aspect of U. S. history prior to 1890. Topics will vary, determined by the instructor's specialty.

HST 575 - Topics in U.S. History since 1860

The course will examine a specific period or aspect of U. S. history since 1860. Topics will vary, determined by the instructor's specialty.

Additional History Electives**HST 510 - Advanced North Carolina History**

An advanced study of the development of North Carolina from colonial beginnings to the present.

HST 520 - History of the South

A political, economic, and cultural study of the southern region with emphasis on the characteristics which make it distinctive.

HST 540 - Topics in History

This course will focus on one topic which does not fit within any single geographic category used above.

MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT (CSC/MAT)**CSC 505. Current Topics in Computers in Education**

An inservice course in the comparison and evaluation of computer hardware configurations and computer software packages for the classroom. The mechanics of setting up a computer network. A consideration of the effect that computers in the classroom have on curriculum development. A laboratory experience will be an integral part of the course.

CSC 508. Computer Graphics for the Mathematics Teacher

This course introduces graphics appropriate to classroom settings at the pre-college level. Graphics that will be dealt with include various algebraic, geometric, and trigonometric relations. Methods that will be used include direct programming as well as the introduction of commercially available software designed for this purpose.

CSC 509. Programming and Algorithms for the Mathematics Teacher I

Techniques for problem solving in a mathematical setting through programming in a high level language. The efficiency of algorithms and the design of programs are considered. CSC 202 or its equivalent is required background for this course.

CSC 510. Programming and Algorithms for the Mathematics Teacher II

Advanced techniques for problem solving in a mathematics setting through programming in a high level language. Emphasis is given to data structures and object-oriented design. An individual in-depth programming project including design, implementation, testing, and documentation of each phase is required. PREREQ: CSC 509 or instructor permission.

CSC 511. Computer Hardware in an Educational Setting

A study of the various components that make up computer configurations in public school settings. Comparison of the various types of computer hardware available for use in the school. Particular attention will be given to evaluation of hardware for laboratory situations with both individual and networking of computers and computer terminals.

CSC 512. Database Management for Teachers

Goals of DBMS including data independence, relationships, logical organizations, schema and subschema. Designing databases including lossless join, dependence preserving normal form decompositions. Using relational database management systems. Constructing applications which include databases. Data integrity and reliability. As announced. Credit, 3 semester hours. PREREQ: CSC 510 or permission of instructor and program coordinator.

CSC 513. Computer Systems for Teachers

Basic logic design; sequential circuits; digital storage and access. Computer structure, machine and assembly language, and addressing modes. I/O and interrupt structure. Operating system concepts. Examples from microcomputer operating systems. As announced. Credit, 3 semester hours. PREREQ: CSC 510 or permission of instructor and program coordinator.

MAT 500. Curriculum Development and Evaluation in Mathematics Education

A critical study of current issues, trends, and the design and evaluation of curriculum in mathematics

education. Students will develop, use, and evaluate a teaching unit as a major part of the work in this course. Required of all master's candidates in mathematics education.

MAT 501. Theoretical Bases of Mathematics Instruction

An advanced study of the theoretical bases of mathematical instruction, including philosophical and psychological concerns. Instructional theories from the field of mathematics education will be examined, together with the research that supports these theories.

MAT 502. History of Mathematics

A historical development of selected topics in mathematics from ancient to modern times. Systems of numeration, geometrical notions, and the development of algebra and analysis with motivational and pedagogical relevance will be given emphasis. Credit will not be allowed for MAT 502 if student has credit for an undergraduate course in the History of Mathematics.

MAT 503. Elements of Problem Solving

This course strengthens the student's mathematical problem-solving ability by extensive work with non-routine problems that can be solved by elementary methods. General strategies for creative problem-solving will be emphasized. Meaningful ways of dealing with such problems in the secondary school classroom will constitute a significant part of the course. Required of all masters candidates in mathematics education.

MAT 505. Elements of Mathematics for the Middle Grades Teacher

The content of this course provides teachers at the middle school level with the mathematics they need in order to be effective in the classroom. Topics include sets, metric geometry, and introductory algebra. These topics will be handled from a problem-solving point of view.

MAT 506. Statistics and Probability for the Secondary Mathematics Teacher

The emphasis of this course will be on understanding various statistical concepts and techniques including measures of central tendency, correlation coefficients, hypothesis testing, analysis of variance, and inferential statistics. The fundamentals of probability that will be discussed include univariate and multivariate distributions, expectation, conditional distributions, and the law of large numbers.

MAT 507. Discrete Mathematics for the Math Teacher

This course will stress applications of Discrete Mathematics and such discrete techniques as are now, or should be, found at the secondary level. Mathematical modeling will be an underlying concept of the course.

MAT 510. Point Set Topology

Elements of point set topology, separation properties, compactness, connectedness, functions, Tietze extension theorem, fundamental group, and covering spaces.

MAT 511. Advanced Topics in Geometry

Topics chosen to improve the secondary mathematics teacher's mastery, breadth of knowledge, and appreciation of classical geometry. Content variable, but chosen to minimize duplication with recent and current MAT 411 classes.

MAT 512. Advanced Topics in Linear Algebra

2- and 3-dimensional linear algebra over the numbers; geometric interpretations; and topics chosen to improve secondary teachers' breadth in and knowledge of Linear Algebra.

MAT 515. Topics in Number Theory

Topics chosen to improve the secondary mathematics teacher's mastery, breadth of knowledge, and appreciation of classical number theory. Content variable, but chosen to minimize duplication with recent and current MAT 415 classes.

MAT 521. Basic Ideas of Analysis I

A brief survey of the principal ideas and techniques of Calculus. Intended as a refresher course for high school teachers who feel the need for an understanding of Calculus in order to prepare their

students for college work.

MAT 522. Basic Ideas of Analysis II

A continuation of MAT 521. This course continues developing the principal ideas and techniques of Calculus. Topics considered in 521 and 522 will generally coincide with topics covered in a three-semester Calculus sequence. (Any student taking MAT 521, and MAT 522, will be required to take three additional semester hours of Analysis.)

MAT 523. Real Analysis

Real number system; open and closed sets, covering properties, Borel sets. Measurable sets and measurable functions. Lebesgue measure and integration, LP spaces.

MAT 526. Special Topics in Abstract Algebra

Selected topics from group, ring, and field theory that have implications to the secondary curriculum will be chosen for study.

MAT 532. Advanced Calculus for the Mathematics Teacher

Topics chosen to improve the secondary mathematics teacher's mastery, breadth of knowledge, and appreciation of advanced calculus. Content variable, but chosen to minimize duplication with recent undergraduate courses in advanced calculus.

MAT 544. Complex Analysis for the Mathematics Teacher

Topics chosen to improve the secondary mathematics teacher's mastery, breadth of knowledge, and appreciation of complex analysis. Content variable, but chosen to minimize duplication with recent undergraduate courses in complex analysis.

MAT 600. Thesis in Mathematics Education

The student prepares a masters degree thesis in Mathematics Education under the direction of a thesis advisor from the Dept. of Math/CSC and the student's thesis committee. Students electing to complete a thesis are still required to take the written comprehensive examinations. May be used to satisfy 3 hrs of electives. PREREQ: 21 hrs of Graduate Work, MAT 500, EDN 566, permission of Math Dept. Chair and Graduate Program Coordinator.

POLITICAL SCIENCE AND PUBLIC ADMINISTRATION DEPARTMENT (PLS)

PLS 540. Systems of State and Local Government

Systematic survey of municipal, county, special district, and state governments, with special emphasis on critical examination of their roles and problems in the decision making process of respective political subdivisions.

PLS 545. American Political Process

Examination of American political and governmental institutions and analysis of their process, relationship, and roles in the dynamics of the political system.

SCIENCE EDUCATION (SCE)

SCE 560. Foundations of Science Education

Historical, philosophical, sociological, political, and economic factors affecting science education in the schools of the United States will be analyzed. The goals of science education in the United States from the early nineteenth century to the present along with the implications of various learning theories and models for curriculum development will be examined. Current trends, issues, and problems in science education will also be evaluated.

SCE 561. Improving Classroom Instruction in the Life and Earth Sciences

This course will focus on the application of major principles of education and psychology for the improvement of science teaching in the secondary school life and earth science classrooms. This will include clarification of goals and objectives of science teaching, instructional strategies, assessment,

elements of a desirable classroom climate and a critical analysis of research relevant to the teaching of the life and earth sciences.

SCE 562. Improving Classroom Instruction in the Physical Sciences

This course will focus on the application of major principles of education and psychology for the improvement of science teaching in the secondary school chemistry and physics classrooms. This will include clarification of goals and objectives of science teaching, instructional strategies, assessment, elements of a desirable classroom climate and a critical analysis of research relevant to the teaching of chemistry and physics.

SCES 563-573. Special Topics in Science Education (1-4 hours)

The course content will vary from offering to offering, but it will be designed to encompass a variety of concepts and pedagogy within the area of science education. It will meet the special needs of individuals within the master's program at UNCP, as well as students seeking credit in special offerings such as short courses, seminars, and special, intense summer experiences.

