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The Graduate Catalog

Master of Education in Science or Mathematics

(with emphasis in STEM)

2017-2018

THE MISSION OF THE COLLEGE

Catawba College was founded in Newton, North Carolina, in 1851 by the German Reformed Church. The College--which is today affiliated with the United Church of Christ--moved to its present location in Salisbury in 1925. The College endeavors to attract students both nationally and internationally of good ability and character. A private, coeducational institution, Catawba offers the Bachelor of Arts, Bachelor of Arts in Education, Bachelor of Business Administration, Bachelor of Fine Arts, Bachelor of Science, and Master of Education degrees to traditional and non-traditional students. The College also serves the public through educational outreach and volunteer service programs for the world community.

The Mission Statement

Catawba College is committed to providing students an education rich in personal attention that blends the knowledge and competencies of liberal studies with career preparation. Catawba College draws strength from Judeo-Christian values, sustains a dynamic community of learners and seeks to unite a diverse population of students, faculty and staff as active co-

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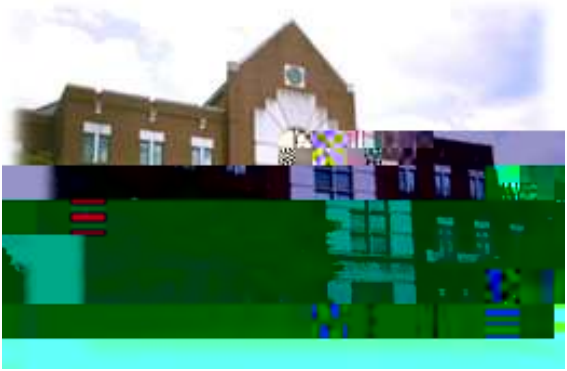

ñPreparing Teachers as Reflective Practitionersò

Master of Education

in

Middle Grades Mathematics
Middle Grades Science
Mathematics Education
Comprehensive Science Education
(with emphasis in STEM)

offered by the
Department of
Teacher Education

in conjunction with Catawba College's
School of Evening and Graduate Studies

All college policies stated in the undergraduate catalog are applicable to the graduate program unless otherwise stipulated.

Correspondence / Telephone Directory

In case of an emergency, please contact the Office of Public Safety at 704-637-4000.

ADMISSIONS REQUIREMENTS

An applicant for regular status in the graduate program is expected to

1. be currently teaching in a middle or secondary mathematics or science classroom; preference is given to candidates with at least one year of teaching experience;
2. show evidence of having received a baccalaureate degree from an accredited institution of higher education with a grade point average of 3.0 or greater (on a 4.0 scale);
3. hold, or be eligible to hold, a North Carolina Standard Professional 1 or 2 license in the area of middle school mathematics, middle school science, secondary mathematics, or secondary science;
4. provide evidence of passing licensure exams as required by the State of North Carolina;
5. provide three satisfactory recommendation forms from persons who have knowledge of the applicant's academic and professional performance or potential with one form completed by the current principal (or most recent principal in the case that the applicant changed schools during the current academic year);
6. complete the Rowan-Salisbury School System (RSSS) screening process for RSSS teachers or complete a satisfactory interview with the Director of the Graduate Program

NOTIFICATION OF ADMISSION

ACADEMIC POLICIES, PROCEDURES, TERMINOLOGY

REGISTRATION

The days scheduled for registration each semester will be announced at the beginning of each academic year. To obtain a list of the dates, contact the Registrar's Office or go on-line to the College website where calendars are published. In order that class work may be started promptly, all graduate students should plan to register on those announced days.

Students should meet with their advisor prior to the actual registration day to plan programs of study. Planning should include careful attention to degree requirements, course prerequisites, appropriate undergraduate background, and course scheduling. Students should plan schedules carefully to minimize dropping and adding courses at the beginning of the semester.

No new student may register until the record of previous work has been received and approved. The registration process includes the completion of all registration forms showing the schedule of classes approved by the student's advisor and the clearing of all accounts by the Business Office.

LATE REGISTRATION

Students may not register for a given semester after three hours of class instruction have been held.

TRANSCRIPT FEE

F was earned at Catawba College may not be repeated elsewhere for credit toward a degree at Catawba College.

STUDENT PROGRESS

Traditional grades are given at the completion of each course. The instructor of each course is expected to develop appropriate standards for the course. The following grades are used to report and record the level of student academic achievement:

Grade		Grade Points Semester Hour
A	Clearly superior achievement	4.0
A-		3.7
B+		3.3
B	Above average performance	3.0
B-		2.7
C+		2.3
C	Average performance	2.0
C-		1.7
F	Failure to achieve minimum competency; no credit given	0.0
I		Incomplete

faculty must agree to supervise this study. Prior to the granting of approval, a written plan must be submitted outlining the scope of the study and the desired outcomes. Upon approval, this proposal shall become a contract for the independent study.

CLASS ATTENDANCE

Regular class attendance is expected in all classes. Each faculty member shall set an attendance policy for each course and make this policy known to students in writing at the beginning of each course. The professor has no obligation to allow or to facilitate make-up work for absences for which no valid reason exists.

EXAMINATIONS

Final examinations or culminating products of learning are a normal part of every course. A student who does not take the examination at the scheduled time will receive a failing grade in that subject unless excused by the instructor. In the event of an absence from an examination because of severe personal illness, death in the immediate family, or other legitimate reasons, the student will be given the opportunity to make up the examination.

NATIONAL BOARD CERTIFICATION CREDIT

A graduate student who has successfully completed all requirements of the National Board Certification process in Mathematics or Science Early Adolescence or Adolescence and Young Adulthood may be eligible to receive three semester hours of graduate credit. These hours will be transfer credit substituted for an elective.

To receive graduate credit for National Board Certification, the graduate student must provide a copy of the dated "Letter to the Candidate" sent by the National Board for Professional Teaching Standards (NBPTS) informing the candidate that he/she has met the standard for National Board Certification.

No graduate credit will be given for the completion of any part of the National Board process without certification. Catawba College will grant graduate credit for National Board Certification awarded within the five years preceding the graduate program, and that certification must be retained through completion of the master's program.

ACTION RESEARCH REPORT AND ACCOMPANYING MULTI-MEDIA PRESENTATION

Action research is required of all students. In EDUC 5119 Action Research I: Middle Grades Mathematics, EDUC 5121 Action Research I: P96( )-2(I:)]TJETBT1 0 0 1 200.332oETBT1 01 0 C

candidate has fulfilled North Carolina's *Standards for Graduate Teacher Candidates.* This evidence is placed in Taskstream, a web-based archival system.

Application for admission to candidacy must be made upon completion of at least 18 semester pseme

ACADEMIC PROGRAMS

GRADUATE COURSE NUMBERING SYSTEM

The Graduate Program at Catawba College uses a four-digit numbering system. The first digit in the series indicates the instructional level of the course:
4 = non-traditional or graduate level (with undergraduate enrollment permitted on a selective basis);
5 = graduate (undergraduate enrollment not permitted);
The second and third digits indicate the program and specialty area of the course; and
The fourth digit is for departmental and divisional use and has no bearing on enrollments.

COURSE NUMBERING SYSTEM FOR GRADUATE CLASSES
5100s Core
5200 and 5300s Elementary Curricular Courses and Language Arts/Reading Courses
5500s Mathematics
5600s Science
5700s Electives
5800s Courses Outside the Teacher Education Department

STANDARDS FOR GRADUATE TEACHER CANDIDATES

Catawba College's graduate program goals and objectives are based on the North Carolina's *Standards for Graduate Teacher Candidates*, which are parallel to and expand upon the *North Carolina Professional Teaching Standards*. These are advanced standards, used as guidelines in preparing teacher leaders who facilitate the creation of healthy educational environments, have deep knowledge and skills in their content and curriculum, use research in making decisions about effective practice for student learning, and are continuous, reflective practitioners who model the values of lifelong learning, critical thinking, problem-solving and innovation.

Standard 1: Teacher Leadership
Teacher leaders assume the roles and responsibilities of collaborative leaders in schools and communities. Teachers demonstrate leadership in their classrooms, schools, and professional organizations; they advocate for students and effective educational practices and policies; and they are role models for ethical leadership. Teacher leaders will know and be able to

Demonstrate effective ongoing communication, collaboration, and team-building among colleagues.
Facilitate mentoring and coaching with novice teachers.
Set goals and establish priorities while promoting educational initiatives that positively affect student learning.
Participate in professional learning communities.

Standard 2: Respectful Educational Environments
Teacher leaders model leadership by establishing a positive and productive environment for a diverse population of students, their families, and the community. Teachers are knowledgeable about cultures and global issues and how they are contextualized locally. Teachers help colleagues develop effective strategies for students with special needs. They encourage positive, constructive relations among colleagues and students. Teacher leaders

THE *NCATE UNIT STANDARDS* RELEVANT TO ADVANCED DEGREES

The Catawba College teacher education programs are accredited by the National Council for Accreditation of Teacher Education (NCATE). The *NCATE Unit Standards* serve as additional guidelines for the goals the College aspires to achieve for both the overall program quality and for the master's teacher candidates. The unit aims to have the master's candidates receive acceptable/proficient ratings or target/accomplished ratings in those NCATE sub-standards that are relevant to classroom

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for teaching and learning so that all students learn. They collaborate with other professionals to identify and design strategies and interventions that support student learning.

1g. Professional Dispositions for All Candidates

Acceptable: Candidates are familiar with the professional dispositions delineated in professional, state, and institutional standards. Candidates demonstrate classroom behaviors that are consistent with the ideal of fairness and the belief that all students can learn. Their work with students, families, colleagues, and communities reflects these professional dispositions.

Target: Candidates work with students, families, colleagues, and communities in ways that reflect the professional dispositions expected of professional educators as delineated in professional, state, and institutional standards. Candidates demonstrate classroom behaviors that create caring and supportive learning environments and encourage self-directed learning by all students. Candidates recognize when their own professional dispositions may need to be adjusted and are able to develop plans to do so.

Standard 2: Assessment System and Unit Evaluation

Candidates are kept abreast of their performance through formative feedback. They review their performance data with faculty and develop plans for improvement based on this data. In most courses, individual conferencing with faculty is encouraged and in the final three culminating courses is required of all candidates. Candidates contribute to data aimed at evaluating and improving candidate performance, the unit, and the graduate program. Current and former candidates are called upon for their recommendations aimed at program improvement.

Standard 3: Field Experiences and Clinical Practice

3b. Design, Implementation, and Evaluation of Field Experiences and Clinical Practice

Acceptable: Candidates participate in field experiences that require them to apply course work in classroom settings, analyze P-12 student learning, and reflect on their practice in the context of theories on teaching and learning. They engage in structured activities that involve analysis of data, the use of technology and current research, and the application of knowledge related to students, families, and communities.

Target: Candidates participate in field experiences that require them to critique and synthesize educational theory related to classroom practice based on their own applied research. This research is theoretically based, involves the use of research and technology, and has real world applications.

MASTER OF EDUCATION IN SCIENCE OR MATHEMATICS

Core Courses	**Semester Hours**
EDUC 5102 School Curriculum	

EDUCATION Courses

EDUC 5102 SCHOOL CURRICULUM *3 s.h.*
A study of curricular and instructional principles, processes, and designs. Particular emphases will be current and emerging curricular trends and professional leadership in the development of learning communities.

EDUC 5103 RESEARCH METHODS FOR THE CLASSRO

gathered from this research. Prerequisite: EDUC 5121 Action Research I: Secondary Mathematics

EDUC 5123 ACTION RESEARCH I: MIDDLE GRADES SCIENCE *3 s.h.*
The first of a two-course individualized research endeavor involving identifying the area of focus, writing the literature review, designing the intervention and explaining its rationale and posing the research questions that will direct the data gathering and analysis. Prerequisite: EDUC 5103 Research Methods for the Classroom Teacher

EDUC 5124 ACTION RESEARCH II: MIDDLE GRADES SCIENCE *3 s.h.*
The second of a two-course individualized research endeavor involving the implementation of the research developed in Action Research I and the analysis and interpretation of the data gathered from this research. Prerequisite: EDUC 5123 Action Research I: Middle Grades Science

EDUC 5125 ACTION RESEARCH I: SECONDARY SCIENCE *3 s.h.*
The first of a two-course individualized research endeavor involving identifying the area of focus, writing the literature review, designing the intervention and explaining its rationale and posing the research questions that will direct the data gathering and analysis. Prerequisite: EDUC 5103 Research Methods for the Classroom Teacher

EDUC 5126 ACTION RESEARCH II: SECONDARY SCIENCE *3 s.h.*
The second of a two-course individualized research endeavor involving the implementation of the research developed in Action Research I and the analysis and interpretation of the data gathered from this research. Prerequisite: EDUC 5125 Action Research I: Secondary Science

EDUC 5127 GRADUATE CAPSTONE AND TEACHER LEADERSHIP *3 s.h.*
The culminating graduate experience in which each candidate creates evidence of in-depth content knowledge, demonstrates growth in professional dispositions, and presents his/her action research before a learning community. This course also includes a study of the central concepts, theories, and research regarding teacher leadership. Prerequisite: EDUC 5120, 5122, 5124, or 5126 Action Research II

EDUC 5503 INTEGRATED MATHEMATICS FOR CLASSROOM TEACHERS *3 s.h.*
An examination of the connections between the concepts of number, algebra, geometry, probability, and statistics.

EDUC 5504 MATHEMATICS AS AN INTERDISCIPLINARY TOPIC *3 s.h.*
An examination of the connections between mathematics and other academic disciplines.

EDUC 5603 INVESTIGATIONS IN PHYSICAL SCIENCE *3 s.h.*
An examination of the nature of scientific inquiry in the physical sciences.

EDUC 5604 INVESTIGATIONS IN BIOLOGY AND ENVIRONMENTAL SCIENCE *3 s.h.*
An examination of the nature of scientific inquiry in the biological and environmental sciences.

EDUC 5703 SUMMER INTERNSHIP *3 s.h.*
A hands-on experience in the field designed to extend learning beyond the classroom.

ELECTIVE Courses

EDUC 5104 ADVANCED EDUCATIONAL PSYCHOLOGY *3 s.h.*
A study of psychological theories and principles and their application to contemporary educational problems and issues, including diverse populations and special needs students.

EDUC 5502 THEORY OF NUMBERS

THE DIRECTORY

ADMINISTRATIVE OFFICERS
BRIEN LEWIS,

B.A., Mars Hill College; M. Ed., University of North Carolina at Charlotte; Ed.S., Ed.D., Appalachian State University

Andrew Smith, *Director of Digital Innovation, Rowan-Salisbury School System*
B.S., M.Ed., Wake Forest University

GRADUATE COUNCIL MEMBERS

Dr. Kimberly Creamer, Chair
Dr. Jay Bolin
Dr. Jeff Bowe
Dr. Gary R. Freeze
Mr. Earl Givens
Dr. Gordon Grant
Dr. Karen K. Lucas
Dr. Carol Miderski
Dr. Julie Morrow
Dr. James K. Stringfield
Dr. John T. Zerger

GRADUATE ADVISORY COMMITTEE

Dr. Kimberly Creamer, Chair
Mrs. Ellen Barr
Mrs. Melanie Blount
Mrs. Tonya Brinegar-German
Mrs. Angela Connolly

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