

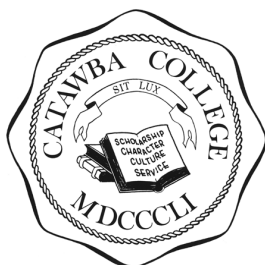
CATAWBA COLLEGE

*“Preparing Teachers
as
Reflective Practitioners”*

The Graduate Catalog

STEM Master’s Program

2016-2017



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-participants in scholarship and service. Catawba College prepares students to reach their highest potential while becoming responsible citizens with a zeal to enrich human life.

The Teacher as a Reflective Practitioner

The Mission of the Teacher Education Unit is to prepare reflective teachers who possess the professional knowledge, skills, and dispositions necessary for effectively teaching students in a diverse and global society.

The Graduate Catalog 2016-2017



“Preparing Teachers as Reflective Practitioners”

Master of Education in Middle Grades Mathematics Middle Grades Science Mathematics Education Comprehensive Science Education

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.

Correspondence to any office at the College should be addressed to the individual or office at

Catawba College
2300 West Innes Street
Salisbury, North Carolina 28144-2488

The Catawba College website, which provides contact information on campus personnel, is www.catawba.edu.

The following telephone numbers may be useful to persons having need for information from these offices:

Dean of the Goodman School of Education – 704-637-4461
The Department of Teacher Education (*Chair*) – 704-637-4468 or 704-637-4461
The Graduate Program (*Director of the Graduate Program*) – 704-637-4462
Admissions Office – 704-637-4402 or 1-800-CATAWBA (toll-free)
Academic Programs (*Provost of the College*) – 704-637-4466
Computer Services – 704-637-4666
Charges & Billing (*Bursar*) – 704 637-4460
Gifts & Bequests (*Director of Development*) – 704-637-4394
Office of Public Safety – 704-637-4000
Publicity (*Chief Communications Officer*) – 704-637-4393
Registration & Student Records (*Registrar*) – 704-637-4411
Religious Life (*Chaplain*) – 704-637-4446
Scholarships & Financial Assistance (*Director*) – 704-637-4416
Student Accounts Receivable (*Business Office*) – 704-637-4388
Student Services (*Dean of Students*) – 704-637-4410

Notice of Nondiscriminatory Policy to Students

Catawba College is committed to diversity and inclusion. In adherence with applicable laws and as provided by College policies, this institution prohibits discrimination in its educational programs and activities on the basis of race, color, religion, national origin, sex, age, sexual orientation, gender identity and expression, genetic information, disability, and veteran status. Individuals with disabilities or special print-related needs may contact Counseling and Disability Services within Student Affairs at 704-637-4410 for more information. Catawba College complies fully with the prohibitions against discrimination on the basis of sex contained in Title IX of the Educational Amendments of 1972. Additionally, Catawba College promotes equal employment opportunity for women, minorities, persons with disabilities, and veterans through its Affirmative Action Program.

The information in the catalog applies to the academic year 2016-2017 and is accurate to the best of our knowledge, as of July 2016. Catawba College reserves the right to change matters described in the catalog, including academic programs and requirements, without prior notice and in accordance with established procedures. The College will publish changes, and students are responsible for informing themselves of such changes.

Individual faculty and staff members are not at liberty to grant exceptions to these policies, and any such verbal agreements may not be honored by the College.

AN INTRODUCTION

CATAWBA COLLEGE: RICH IN THE TRADITION OF SUCCESS

The vitality of Catawba College lies in its tradition of strong academic programs; sensitive, concerned, yet demanding faculty; diverse students who share a seriousness of purpose; successful, loyal graduates; and informed, committed trustees.

Founded in Newton, North Carolina, in 1851, out of a concern for preparing young men for the Christian ministry, the college moved to Salisbury in 1925. From one building, Catawba College has grown to a campus with 29 buildings on 276 acres of land and a physical plant valued in excess of \$30 million. Catawba College is governed by a Board of Trustees of over 45 men and women. Fully accredited by the Southern Association of Colleges and Schools Commission on Colleges, the College offers a strong liberal arts oriented undergraduate program.

ACCREDITATION AND PROFESSIONAL MEMBERSHIPS

Catawba College is accredited by the Southern Association of Colleges and Schools Commission on Colleges (1866 Southern Lane, Decatur, GA 30033-4097; 404-679-4500) to award bachelor's and master's degrees.

The Teacher Education Program is accredited by the National Council for Accreditation of Teacher Education (NCATE) and approved by the North Carolina State Board of Education.

This accreditation includes both basic and advanced levels of professional education programs offered at the institution.

The College also holds membership in the following professional associations:

- Association of American Colleges and Universities
- Association of Governing Boards of Universities and Colleges
- Association of Independent Liberal Arts Colleges for Teacher Education
- Council of Independent Colleges
- National Association of Independent Colleges and Universities
- National Collegiate Honors Council
- North Carolina Association of Colleges and Teacher Educators
- North Carolina Association of Colleges and Universities
- North Carolina Independent Colleges and Universities

THE GRADUATE PROGRAM

The graduate program at Catawba College is built upon the strengths of the undergraduate curriculum. The Master of Education program in STEM Education, designed for practicing teachers with "A" licensure in middle grades mathematics, middle grades science, secondary mathematics, or secondary comprehensive science, is based upon the recognition that a strong academic background is a vital part of a teacher's preparation. The graduate program is designed to provide the practicing licensed teacher with advanced work in content along with a further development of professional knowledge and skills.

2016-2017 Academic Calendar

FIRST SEMESTER

AUGUST

- 15 Monday/Graduate Student Registration
- 17 Wednesday/Classes Begin
- 24 Wednesday/Last Day to Add a Course/Last Day to File for December or January Graduation

SEPTEMBER

- 5 Labor Day Holiday/No Classes
- 26 Monday/Last Day to Remove "I" Grades Outstanding from Spring or Summer

OCTOBER

- 6 Thursday/Progress Reports Due
- 8-11 Saturday-Tuesday/ Fall Break
- 14 Friday/Last Day to Drop a Class/Credit by Exam Form for Fall 2016 must be on file in Registrar's Office
- 28-30 Homecoming Weekend
- 24-27 Registration for Spring Semester
- 28 Friday/Last Day for Voluntary Withdrawal

NOVEMBER

- 23-27 Wednesday-Sunday/Thanksgiving Break
- 28 Monday/Classes Resume

DECEMBER

- 2 Friday/Last Day of Classes
- 5-9 Monday-Friday/Final Exams
- 12 Monday/All Grades Due
Winter Term Classes Begin
- 13 Last Day to Add Winter Term Class
- 19 Holiday Break Begins/College Closes
- 23 Last Day to Drop Winter Term Class

SECOND SEMESTER

JANUARY

- 5 Last Day of Winter Classes
- 8 Sunday/Residence halls open
- 9 Monday/Graduate Student Registration
- 10 Tuesday/Classes Begin
- 16 Monday/Martin Luther King, Jr. Holiday/College Closed
- 18 Wednesday/Last Day to Add a Course/Last Day to File for May Graduation

FEBRUARY

- 20 Monday/ Last Day to Remove "I" Grades Outstanding from First Semester
- 27 Monday/Progress Reports due

MARCH

- 4-12 Saturday-Sunday/Spring Break
- 13 Monday/Classes Resume
- 14 Tuesday/Last Day to Drop a Class
- 23 Last Day for Voluntary Withdrawal
- 27-30 Registration for Summer and Fall

APRIL

- 14-17 Easter Break/College Closed
- 20 Thursday/Spring Awards Convocation

MAY

- 1 Monday/Last day of Classes
- 3-9 Wednesday-Tuesday/Final Exams
- 12 Friday/Baccalaureate
- 13 Saturday/Commencement

GRADUATE PROGRAM SUMMER SESSIONS

Summer Session (Three Weeks)

- June 5 Monday/Registration/Classes begin
- June 23 Friday/Final Exams

Summer Session (Six weeks)

- June 5 Monday Registration/ Classes begin
- July 14 Friday/Final exam

Summer Session (Three Weeks)

- June 26 Monday/Registration/ Classes begin
- July 4 Tuesday/Holiday
- July 14 Friday/Final Exam

ADMISSIONS INFORMATION

HOW TO APPLY

1. Complete the online application located at <http://www.catawba.edu/stem-app> or request an application by writing or calling
Dr. Kimberly Creamer, Graduate Program Director
Catawba College
2300 West Innes Street
Salisbury, NC 28144-2488
Telephone – 704- 637-4461 or 4462
1-800-CATAWBA
FAX – 704-637-4732
E-mail – kcream14@catawba.edu or jvsnyder@catawba.edu
2. Submit the following directly to the Graduate Program Director or to the Department Administrative Assistant:
 - a. two official transcripts from each college/university attended (These should be mailed from the institution directly to the Department of Teacher Education, Catawba College.);
 - b. the completed application forms and documents and the \$25.00 non-refundable application fee;
 - c. a copy of passing licensure exams as required by the State of North Carolina;
 - d. a copy of your teacher’s license;
 - e. three references from individuals who have direct knowledge of your academic and/or professional performance; At least one form must be completed by your principal.
 - f. a brief statement on a separate sheet of paper (not more than one page) concerning your reason for wanting to pursue graduate study. Include any information concerning work experiences and/or service through professional organizations that you feel would be helpful to the admission screening committee. Enclose the essay with your application.
3. Request an appointment through the office of the Director of the Graduate Program for an admission interview. (RSSS teachers will be interviewed by a school system team.)

WHEN TO APPLY

The STEM master’s program will operate under a cohort model. Prospective students should apply for admission no later than October 1st in order to be eligible to begin the program during the spring semester of the same academic year.

Please note that this master’s program is designed to be completed in two years (e.g., Spring 2017 – Fall 2018). Students will be expected to enroll in two courses each semester, including the summer session.

Each cohort will be limited to 20 students with approximately 25% of the slots reserved for teachers employed in school districts outside of the Rowan-Salisbury School System. Ten of the 20 slots will be available to mathematics teachers and 10 to science teachers.

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 for non-RSSS applicants; and
7. complete and submit all necessary application forms including a personal statement concerning reasons for desiring graduate study.

Conditional admission may be granted to an applicant with an undergraduate grade point average slightly under 3.0 if there is evidence of academic ability sufficient to complete the program. Under such circumstances, the conditionally-admitted person must maintain a 3.0 average for the first four courses taken to be eligible to continue.

Catawba College will accept up to six semester hours of transfer credit for graduate courses taken at other regionally accredited graduate degree granting institutions. No grades will be given for such credit, nor will these credits be considered in the computation of a final grade point average.

Students not admitted to the graduate program will be permitted to register for graduate courses at Catawba College under the following circumstances:

1. The courses taken have been approved for transfer credit to another graduate program.
2. The courses taken are needed for teacher licensure renewal credit.
3. The courses taken are for personal fulfillment only and ordinarily may not be applied to a graduate degree program.

Transfer credit will be given only for graduate courses in which grades of "B" or above are earned and which are courses approved for the student's program. No undergraduate course credits will be counted in the total requirements for the degree program.

Regularly enrolled graduate students at Catawba College who plan to take a course at other institutions must have completed appropriate forms in the Registrar's Office and have the course approved by the Director of the Graduate Program before beginning the course. Such a course taken without prior approval may not be accepted for credit.

NOTIFICATION OF ADMISSION

Students who have made application will be notified in writing of the Graduate Admissions Committee's decision as soon as possible after the application process has been completed.

ADMISSION OF POST-BACCALAUREATE UNCLASSIFIED (PBU) STUDENTS INTO GRADUATE COURSES

Non-degree seeking persons who wish to pursue graduate studies for personal enrichment or renewal of a teaching license and who hold a baccalaureate degree from a recognized accredited college or university are allowed to take certain courses offered in the graduate program. These students are categorized as Post-baccalaureate Unclassified (PBU). The courses Action Research I and II and Graduate Capstone are reserved for graduate students. PBU students may take an independent study with the approval of the Teacher Education Department. Graduate credits earned as a PBU student are not normally applicable to a graduate degree. However, should a PBU student wish to apply for admission to the graduate program, and if that student would have clearly qualified for admission at the time the credit was earned, then that PBU student may apply up to nine semester hours toward a master's degree provided that approval is secured from the Graduate Council.

PBU students go through general admissions and not through the graduate admissions. Graduate tuition applies only to those students who are admitted into the graduate program.

STUDENT EXPENSES AND FEES

All tuition and fees are subject to change, without notice, by the Catawba College Board of Trustees.

Application Fee	\$25.00 non-refundable
Tuition	\$185.00 per semester hour of credit
Parking Fee	\$25.00 per semester

TUITION SCHOLARSHIP

Teachers employed in the Rowan-Salisbury School System (RSSS) may be eligible to receive free tuition for all graduate classes taken at Catawba College during enrollment in the STEM master's program. Fees, textbooks, and materials required for courses are not included as part of free tuition. Teachers who participate in the STEM master's program from school districts outside of RSSS are not eligible to receive free tuition.

REFUND/REPAYMENT POLICY

The College is required to use Federal software to calculate refunds for students withdrawing before the 60% point in the semester. Students who officially withdraw from a class during the first seven (7) calendar days of the semester (based on the schedule for day program) receive a 60% refund of tuition for that class; a 35% refund during the second seven (7) calendar days; a 25% refund during the third seven (7) calendar days. No refund will be issued after the 21st calendar day of the semester. Catawba College will credit any refund amount due the student to the student's account if the student also owes a repayment or owes unpaid charges to the institution. Based on these guidelines, students are financially responsible after the refund period has passed.

In summer terms, students who officially withdraw from a class before 10:00 a.m. of the second class day of the term receive a 100% tuition refund and before 10:00 a.m. of the third class day of the term a 75% refund. No refund will be given after 10:00 a.m. the third class day of the summer term. The date of withdrawal is considered as the formal date on the Withdrawal Form.

To withdraw from a class, students must go to the Registrar's Office and complete the necessary form. If further assistance is required, please contact Dr. Creamer, Director of the Graduate Program (704-637-4462 or 4461) or the School of Evening and Graduate Studies (704-637-4772). If the student fails to formally withdraw from the institution, then the date of withdrawal is considered to be the last documented date of attendance. Failure to withdraw from a course will result in a grade of "F." The last day of withdrawal can be found in the academic calendar.

SCHOLARSHIPS AND FINANCIAL ASSISTANCE

Graduate students must be enrolled in at least six credit hours to qualify for financial assistance. Graduate students in need of assistance to meet their educational expenses should apply to the Financial Assistance Office. All aid from the Financial Assistance Office is based upon a student's financial need, which is the difference between reasonable costs of attendance and the student's available resources. Financial assistance to graduate students is most often in the form of loans.

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In order to apply for a federal loan, a graduate student must first complete the Free Application for Federal Student Aid (FAFSA). The Student Aid Report (SAR) should be specified to be sent to Catawba College (Code 2914). Once the Office of Financial Assistance has received the SAR, the staff will be able to provide assistance in the federal loan process.

Since financial assistance is limited for graduate students, applicants are encouraged to seek scholarships and aid through outside sources. Students are encouraged to contact websites such as www.FASTWEB.com or www.scholarsaid.com for assistance in locating outside scholarship and loan resources.

In addition to the FAFSA, all financial aid applicants who have attended colleges or universities other than Catawba College must submit a Financial Aid Transcript (FAT) for each school previously attended. Copies of the form may be obtained from the Financial Assistance Office. Requests for financial aid will be considered only after the SAR and FAT(s) have been received by the Financial Assistance Office.

An award decision cannot be made until an applicant has been admitted to the graduate program, so the student should complete the admission procedure as early as possible.

RECOGNITION OF FULL-TIME STATUS AS A GRADUATE STUDENT

A full-time graduate student is defined as one taking 6 semester hours. A half-time graduate student is one taking 3 semester hours.

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

Official copies of student transcripts can be obtained from the Registrar's Office at a cost of \$5.00.

TRANSFER OF CREDIT

Catawba College will accept a maximum of six semester hours of graduate credit toward a degree program from another regionally accredited institution. Transfer credit will be given only for graduate courses approved for the student's program in which grades of B or better were earned. No undergraduate course credits will be counted in the total requirements for the degree program. However, in some cases, appropriate undergraduate course credits may be accepted to meet prerequisite requirements.

Regularly enrolled graduate students at Catawba College who plan to take courses at other institutions must have these courses approved by the Director of the Graduate Program before beginning the courses. Such courses taken without prior approval may not be accepted for credit.

CREDIT BY EXAMINATION

Under unusual circumstances, a student may petition the Graduate Council for permission to meet a degree requirement by examination.

REPEATING OF COURSES

A course for which unsatisfactory credit was received may be taken a second time at Catawba College. Credit by examination may not be used for this purpose. The higher

grade achieved by the student is the grade used for calculating the grade point average. All courses attempted and grades earned appear on the permanent record. Courses for which C or 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	
*S.....	Satisfactory (equivalent to B or better)	
*M.....	Marginal (equivalent to D, used only on progress reports)	
*U.....	Unsatisfactory (equivalent to F)	
*W.....	Withdrawn	

* Not used in computation of GPA

In this grading system, each semester hour passed has a grade point value equated to the letter grade. Thus, a student who earns an A in a three-semester-hour course earns 12 grade points for that course whereas an A- would yield 11.1 grade points (3 semester hours x 3.7 grade points) in the same course.

The cumulative grade point average (GPA) is obtained by dividing the total semester hours attempted into the total grade points earned. The grades of I, S, U, and W are not used in this calculation. Semester and cumulative grade point averages are indicated on the grade report at the end of each semester.

The grade of I may be given when a student, because of extenuating circumstances, is unable to complete a course in a particular semester. The student must complete the work within 40 calendar days of the next regular (non summer) date of registration after the end of the semester in which the I grade was earned. Otherwise, the grade of I automatically becomes an F. Exemption may be granted upon petition to the Graduate Council before the 40 calendar-day deadline.

The grades of S and U are used as final grades in the Action Research courses, the Graduate Capstone, internship, and independent study.

Academic records may be withheld for failure to satisfy financial or other responsibilities.

DROPPING AND ADDING COURSES

Courses may be added during a designated period at the beginning of each term, pending proper approval and payment of stated fees. A student may not enter a class after it has met more than three hours.

A student may withdraw from a course with a grade of W up to the date posted in the academic calendar. Courses dropped after that time, except for reasons of health or other reasons approved by the Director of the Graduate Program, will result in a grade of F.

STUDENT RETENTION

A graduate student must satisfactorily complete 11 courses or 33 semester hours of credit for the Master's degree. A 3.0 grade point average is required. No more than two courses with a grade of C will be counted toward the degree.

A student will become ineligible to continue in the graduate program if 1) grades of F are received in any two courses; 2) grades of C are received in any three courses; 3) a grade of F is received in one course and grades of C are received in two other courses; or 4) a 3.0 average is not achieved within the 11 courses required for graduation.

A student dismissed for academic reasons may apply for readmission on a provisional basis after one calendar year has elapsed. Withdrawal from a program shall not be considered complete until all student financial accounts have been cleared.

ACADEMIC LOAD

The graduate program at Catawba College is designed for the student who is currently employed in a full-time teaching or school-related position. During the academic year, students will enroll for two courses. Normally, a student can expect to complete all degree requirements during a two-year period.

As explained earlier in this catalog, Catawba College defines a full-time graduate student as one taking 6 hours. A half-time student is one taking 3 hours.

APPEAL OF GRADES

Any complaint involving a course grade must first be appealed to the professor assigning the grade. If the complaint is not resolved at that level, the student may appeal to the Graduate Council for a hearing.

CLASS SCHEDULING

Graduate classes normally are scheduled in the late afternoons during the academic year. Day classes are usually scheduled during the summer terms. Ordinarily, during the academic year, each class will meet for three hours one day a week. Summer courses usually cover three-week spans and usually meet for three hours each day.

INDEPENDENT STUDY

Independent study is an approach to learning that serves as an alternative to regular classroom instruction. In certain situations, independent study may be an appropriate form of graduate-level study. Permission to register for an independent study must be secured from the directing instructor and the Director of the Graduate Program. A

member of the graduate 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: Secondary Mathematics, EDUC 5123 Action Research I: Middle Grades Science, or EDUC 5125 Action Research I: Secondary Science, students review the relevant literature and plan the intervention and how it will be assessed. In EDUC 5120 Action Research II: Middle Grades Mathematics, EDUC 5122 Action Research II: Secondary Mathematics, EDUC 5124 Action Research II: Middle Grades Science, or EDUC 5126 Action Research II: Secondary Science, students implement the intervention and analyze the results. In EDUC 5127 Graduate Capstone and Teacher Leadership, the Action Research Report, bundled with a multi-media presentation that summarizes the research, is presented to a learning community. Later, the research is reviewed by an evaluative panel of three (two graduate faculty members and one public school representative who holds a master's degree or higher). During this evaluative review, the candidate has to demonstrate growth in professional dispositions. The Action Research Report, along with its accompanying multi-media

presentation, is the evidence that the 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 hours and prior to implementing the action research project.

APPLICATION FOR THE DEGREE

A student must apply for the Master of Education degree when registering for the final term of graduate study. Forms should be obtained from the Registrar.

POLICY REGARDING GRADUATION

The requirements for the master's degree are fulfilled upon the completion of the required coursework and the evaluation panel's approval of the Action Research Report and the accompanying multi-media presentation. Once both requirements are fulfilled, NCDPI will be informed that the graduate student qualifies for a graduate license.

A declaration of intent to graduate must be filed in the Registrar's Office by the announced filing deadline. The Registrar certifies the completion of all degree requirements. A graduate student anticipating graduation at the end of a particular semester who does not complete all work by the time grades are due must reapply for graduation at a later date and assume the financial responsibilities involved therein.

Commencement exercises are held once a year in May when degrees are conferred and diplomas are issued to those who have completed all degree requirements.

The diplomas of graduate students who complete their degree requirements during the summer or the fall terms will be dated and issued the following May. Permanent records (transcripts) will note the date of completion of all requirements until the degree is conferred, at which time the conferral date will be noted.

DEGREE COMPLETION

Graduate students must complete 33 semester hours of coursework required with a minimum 3.0 grade point average. Moreover, the candidates must successfully complete and defend their Action Research Report before an evaluation team. The Action Research Report and accompanying media presentation, the content paper and accompanying media presentation, and the self-evaluation of professional dispositions must be approved and archived on Taskstream.

Coursework counted toward the degree must be completed in five years, counting from the earliest course used for degree credit. For graduate credit to be awarded for National Board Certification, the certificate must have been awarded within the five years preceding the graduate program, and that certification must be retained through completion of the master's program. Any exceptions to these policies must be approved by the Graduate Council.

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

PROGRAM GOALS AND OBJECTIVES BASED ON NORTH CAROLINA'S *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

- Facilitate the development of inviting, respectful, supportive, inclusive, and flexible educational communities.
- Create collaborative partnerships with families, schools, and communities to promote a positive school culture.
- Facilitate and model caring and respectful treatment of individuals within the learning community.
- Demonstrate knowledge and understanding of diverse world cultures and global issues.
- Encourage high expectations for all students.
- Collaboratively design and implement curriculum and instruction that is responsive to learner differences.

Standard 3: Content and Curriculum Expertise

Teacher leaders have a deep knowledge of the subjects they teach and understanding of curriculum theory and development. They value collaboration and the interconnectedness of disciplines. They understand the importance of curriculum relevance in engaging students in content. Teacher leaders

- Demonstrate in-depth knowledge of curriculum, instruction, and assessment.
- Model the integration of 21st century content and skills into educational practices.
- Develop relevant, rigorous curriculum.

Standard 4: Student Learning

Teacher leaders facilitate student learning through evidence-based practice informed by research. They understand and apply research in child and adolescent development, cognitive development, and general and specialized pedagogy. They encourage critical reading, writing and thinking in the learning process. They foster instructional and evaluation methods that embrace variety and authenticity. They promote student reflection and self-assessment. They encourage colleagues and students to take on leadership roles and work in teams. Teacher leaders

- Seek out and use existing research to inform school practices.
- Design action research to investigate and improve student learning and school policies and practices.
- Model technology integration that supports student learning.
- Critically analyze student and school performance data to determine needs and plan instruction that is rigorous, coherent, and substantiated within a theoretical and philosophical base.

Standard 5: Reflection

Teacher leaders contribute to systematic, critical analysis of learning in their classrooms and beyond. They are lifelong learners who model and support ongoing professional development. Teachers embrace critical thinking, problem solving, and innovation.

Teacher leaders

- Promote an educational culture that values reflective practice.
- Model the development of meaningful professional goals.
- Model personal and professional reflection to extend student learning and school improvement

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 teachers.

Standard 1: Candidate Knowledge, Skills, and Professional Dispositions

1a. Content Knowledge for Teacher Candidates

Acceptable: Candidates have an in-depth knowledge in the content they teach.

Target: Candidates are recognized experts in the content they teach.

1b. Pedagogical Content Knowledge and Skills for Teacher Candidates

Acceptable: Candidates demonstrate an in-depth understanding of the content of their field and of the theories related to pedagogy and learning. They are able to select and use a broad range of instructional strategies and technologies that promote students learning and are able to clearly explain the choices they make in their practice.

Target: Candidates have expertise in pedagogical content knowledge and share their expertise through leadership and mentoring roles in their schools and communities. They understand and address student preconceptions that hinder learning. They are able to critique research and theories related to pedagogy and learning. They are able to select and develop instructional strategies and technologies, based on research and experience, that help all students learn.

1c. Professional and Pedagogical Knowledge and Skills for Teacher Candidates

Acceptable: Candidates reflect on their practice and are able to identify their strengths and areas of needed improvement. They engage in professional activities. They have a thorough understanding of the school, family, and community contexts in which they work, and they collaborate with the professional community to create meaningful learning experiences for all students. They are aware of current research and policies related to schooling, teaching, learning, and best practices. They are able to analyze educational research and policies and can explain the implications for their own practice and for the profession.

Target: Candidates develop expertise in certain aspects of professional and pedagogical knowledge and contribute to the dialogue based on their research and experiences. They take on leadership roles in the professional community and collaborate with colleagues to contribute to school improvement and renewal.

1d. Student Learning for Teacher Candidates

Acceptable: Candidates have a thorough understanding of the major concepts and theories related to assessing student learning and regularly apply these in their practice. They analyze student, classroom, and school performance data and make data driven decisions about strategies for teaching and learning so that all students learn. They are aware of and utilize school and community resources that support student learning.

Target: Candidates have a thorough understanding of assessment. They analyze student, classroom, and school performance data and make data-driven decisions about strategies 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.

THE GRADUATE PROGRAM IN STEM EDUCATION

STEM Core Courses	Semester Hours
EDUC 5102 School Curriculum	3
EDUC 5103 Research Methods for the Classroom Teacher	3
EDUC 5113 Advanced Technology Applications for Teachers I.....	3
EDUC 5114 Advanced Technology Applications for Teachers II	3
EDUC 5115 Multiliteracies in STEM for Teachers.....	3
EDUC 5127 Graduate Capstone and Teacher Leadership	3
EDUC 5703 Summer Internship (or Elective).....	3
	21

Middle Grades Mathematics (M.Ed. Degree)

STEM Core	21
EDUC 5119 Action Research I: Middle Grades Mathematics.....	3
EDUC 5120 Action Research II: Middle Grades Mathematics	3
EDUC 5503 Integrated Mathematics for Classroom Teachers	3
EDUC 5504 Mathematics as an Interdisciplinary Topic	3
	33

Middle Grades Science (M.Ed. Degree)

STEM Core	21
EDUC 5123 Action Research I: Middle Grades Science	3
EDUC 5124 Action Research II: Middle Grades Science.....	3
EDUC 5603 Investigations in Physical Science.....	3
EDUC 5604 Investigations in Biology and Environmental Science	3
	33

Mathematics (M.Ed. Degree)

STEM Core	21
EDUC 5121 Action Research I: Secondary Mathematics	3
EDUC 5122 Action Research II: Secondary Mathematics.....	3
EDUC 5503 Integrated Mathematics for Classroom Teachers	3
EDUC 5504 Mathematics as an Interdisciplinary Topic	3
	33

Comprehensive Science (M.Ed. Degree)

STEM Core	21
EDUC 5125 Action Research I: Secondary Science.....	3
EDUC 5126 Action Research II: Secondary Science	3
EDUC 5603 Investigations in Physical Science.....	3
EDUC 5604 Investigations in Biology and Environmental Science	3
	33

*National Board Certification in the areas of Mathematics or Science Early Adolescence or Adolescence and Young Adulthood may be substituted for one elective course.

STEM 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 CLASSROOM TEACHER

3 s.h.

An introduction to quantitative and qualitative approaches to educational research, including data analysis, interpretation, and application of findings. Particular emphasis will be given to the design and implementation of teacher-designed classroom research.

EDUC 5113 ADVANCED TECHNOLOGY APPLICATIONS FOR TEACHERS I

3 s.h.

An introduction to modern educational technologies and their applications for enhancing instruction, assessment, and professional practice.

EDUC 5114 ADVANCED TECHNOLOGY APPLICATIONS FOR TEACHERS II

3 s.h.

An overview of the integration of technology in STEM and PBL instruction. This course will explore and build knowledge of various science and math pedagogy models while providing relevant instructional technology classroom practices.

EDUC 5115 MULTILITERACIES IN STEM FOR TEACHERS

3 s.h.

The development of understanding and implementing pedagogical strategies that integrate multimodal communication including print, media, aural, and critical literacies in content classes.

EDUC 5119 ACTION RESEARCH I: MIDDLE GRADES MATHEMATICS

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 5120 ACTION RESEARCH II: MIDDLE GRADES MATHEMATICS

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 5119 Action Research I: Middle Grades Mathematics

EDUC 5121 ACTION RESEARCH I: SECONDARY MATHEMATICS

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 5122 ACTION RESEARCH II: SECONDARY MATHEMATICS

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 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 *3 s.h.*

A rigorous analysis of arithmetic theory, including properties of real numbers with emphasis given to the set of integers, along with modern and historical numeration systems.

EDUC 5602 ENVIRONMENTAL SCIENCE EDUCATION *3 s.h.*

An advanced study of environmental science education, including the design and implementation of experiential learning experiences.

EDUC 5702 CULTURAL DIVERSITY *3 s.h.*

A critical analysis of topics and issues related to cultural diversity that challenge classroom teachers; a reflective examination of fundamental assumptions and perspectives that influence teaching and learning.

TOPICS AND INDEPENDENT STUDY Courses

EDUC 5900 TOPICS IN EDUCATION *3 s.h.*

The study of a selected topic from the fields of education focusing on specialized interests within the discipline.

EDUC 5901 INDEPENDENT STUDY IN EDUCATION *1-3 s.h.*

Self-directed study following a contractual plan initiated by the student and accepted by the faculty.



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