Course: ELEM 430 01 Methods of Assessing and Teaching Math

Credit Hours: 3 Credits  
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Required Text(s) and Materials:  
Learning Math in Elem and Middle schools: A learner-centered approach, 5 E. Cathcart, Pothier, Vance, Bezuk, Pearson. ISBN# 9780132420990

There is now a set of common books which will serve as resources for students in all methods classes. These books are required for all methods classes and should be purchased and can be beneficial resources as candidates complete hallmark assignments. They are:


Optional Resource: National Council of Teachers of Mathematics (NCTM) at http://www.nctm.org/. This provides rich resources with membership including the publication teaching children mathematics for elementary school teachers.

NC DPI Common Core – Mathematics http://www.ncpublicschools.org/acre/standards/common-core/

Course Description: Mathematical assessment and instruction of diverse students will include number and operations, algebra, geometry, measurement, data analysis, and probability. Instructional approaches will include inquiry and direct instruction, and will emphasize systematic presentation that moves from concrete to abstract and utilizes multi-sensory materials.

Learning Outcomes:

1. Ninety percent of candidates will pass the weekly or bi-weekly quizzes with an average of 80% or higher.
2. As a prospective teacher, you are required to develop a portfolio that will demonstrate your growth in professional competencies, as well as provide you
with an opportunity to self-assess and reflect upon your own work. Your professional portfolio will be assessed during two check points, mid-term and final. Some of your assignments in this class will be added to your online portfolio. You are required to compile specified assignments in TaskStream. (50 points)

a) **Comprehensive Assessment Plan (Student Impact Project)** - Candidates must be rated at least “proficient” on the standard rubric upon completion of the Positive Impact on Student Learning Project. (30 points)

2. The student will demonstrate an understanding of weekly readings and discussions by successfully completing a **weekly quiz**. Completing the quiz with 80% accuracy should indicate the minimum level of comprehension expected. (20 points)

3. The student will demonstrate an understanding of the first half of the course by successfully completing a **comprehensive mid-term exam**. Completing the test with 80% accuracy should indicate the minimum level of comprehension expected. (15 points)

4. The student will demonstrate an understanding of the competencies and objectives of the course by successfully completing and scoring a minimum of 80% on a comprehensive multiple choice **final exam**. (15 points)

**Other Expectations:**
Elementary grades teacher candidates have the knowledge and understanding of mathematical conventions and processes skills relative to:
- number sense, numeration, numerical operations, and algebraic thinking;
- spatial sense; measurement and geometry; patterns, relationships, and functions; and data analysis, probability and statistics

Teachers:
- demonstrate leadership by leading in their classrooms and school and in the profession.
- establish a respectful environment for a diverse population of students and collaborate with the home and community for the benefit of students.
- know the content they teach, recognize the interconnectedness of content and make instruction relevant to students.
- facilitate learning for their students, and know the appropriate levels of intellectual, physical, social, and emotional development of their students.
- reflect on their practice, analyze student learning and link professional growth to their professional goals.

**Requirements and Assessments**

1. **Candidates will complete Electronic Evidence#5/Positive Impact on Student Learning Project:**
Candidates will develop a Positive Impact on Student Learning Project that integrates technology, is based on a continuous improvement model, and is used to drive instruction. Using a variety of assessment data to measure attainment of goals outlined in the North Carolina Common Core Standards/Essential Standards, candidates will evaluate the progress of an individual, small group, or whole class of students. Utilizing research-based teaching strategies (through the design of at least five lesson plans), and a variety of authentic assessments (formative, benchmark and summative), candidates will plan and scaffold instruction to meet the diverse needs of their students. All students must be rated at least “proficient” on the standard rubric. A team of faculty members, cooperating teachers and principals may utilize the rubric to assess the candidates Comprehensive Assessment Plan. This project will be submitted to TaskStream and will be developed over time. Each submission to TaskStream will be rated by the instructor and returned for revisions (if needed) and additions, until the project is completed. Each submission should be dated to assist with evaluations. For instance, the candidates will be asked to submit an introduction and the first lesson plan (including pre-assessment and formative assessment). Feedback provided by the instructor will assist candidates as they build their project.

2. **Mid-term, Final Exam, and quizzes:**
   Candidates will be given weekly quizzes, a mid-term exam and final exam on the content of the course.

3. **Quality lesson plans (unit/set of five or more) will be submitted:**
   Students will develop a series or set of at least five quality, differentiated lesson plans that incorporate the North Carolina Common Core Standards and meet the state and national standards for a selected grade level (K-6). Lesson plans must also address multiple intelligences and include plans for assessment. These lessons will be taught to 1 to 4 students in the candidate’s field experience placement. A standard format for lesson plans is located in TaskStream under “lesson plan builder” and “unit builder”, and a rubric will be used to score final forms of lesson plans. All students must be rated at least satisfactory by the instructor. The rubric is also located in TaskStream. Candidates will find the directions, rubric and submission for the lessons by locating ELEM 430 Mathematics Methods on the DRF menu and then finding Positive Impact on Student Learning.

4. **Assignments based on reading will be required.**
   - Candidates are responsible for reading assigned material in the textbook and any additional reading resources that are provided and may expect to see appropriate assignments that are related to the reading and discussion.
   - Candidates are responsible for completing any assignments using Teachscape, which features video resources that may include (1) best-practice videos that show research-based practices in action in the classroom; (2) commentaries by noted researchers that are designed to
provide a research-based perspective on the practices illustrated; (3) teacher reflections to promote better understanding of the featured teacher's instructional decisions; and (4) student commentary on the featured classroom processes and students' experience of the instruction.

- Self-registration directions for Teachscape are provided on the document in “Course Documents” called *Self Registration Code-ECSU Student*.

**Course Grading Components:**

**Requirements**

1. Locate, review and copy the elementary mathematics curriculum (K-6) in Number and Operations, Measurement, Geometry, Data Analysis, Algebra and Problem Solving Strands from the *North Common Core Standards for Mathematics*. This must be used in all lesson plans.

2. Participate in 30 hours of approved field experience. Students will be assigned to a school and a teacher. A reflective journal, detailing experiences and observations, should be developed over the course of the field experience and submitted to the instructor. A set of guiding questions is available in Course Documents.

3. Develop a set of sequential mathematics activities with five lessons per set. The activities/lessons should be aligned to the NC Standard Course of Study for a specific grade level, and should provide a progression of difficulty level that meets the needs of all learners. Please include an assessment component and plan for differentiation. A lesson plan format will be provided and should be followed. (see exemplars in course documents)

4. Develop a Comprehensive Assessment Plan (according to the rubric) which includes the set of sequential lesson plans. This will be submitted into TaskStream and is Electronic Evidence #5. This project is required evidence which must be completed satisfactorily in order to be recommended for licensure.

5. Complete all required reading assignments and reflect on online resources. Provide reflections in the discussion board as instructed.

6. Work that is submitted late will be assessed 1 point per day and will not be accepted later than one week after the due date.

7. All candidates will be required to submit the Field Experience Forms at the end of their experience in order to pass this class.

8. Weekly quizzes will be given from the material for each week.
9. Mid-term exam

10. Final Exam

11. Attendance (class participation in learning community via Blackboard)

Participation in discussion threads  (see syllabus) Required

**Grading Scale**

The Grading Scale is consistent with University policy and is as follows:

<table>
<thead>
<tr>
<th>Points Earned</th>
<th>Grade Equivalent</th>
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</thead>
<tbody>
<tr>
<td>1287 - 1430</td>
<td>A</td>
</tr>
<tr>
<td>1144 - 1286</td>
<td>B</td>
</tr>
<tr>
<td>1001 - 1143</td>
<td>C</td>
</tr>
<tr>
<td>858 - 1000</td>
<td>D</td>
</tr>
<tr>
<td>Below 858</td>
<td>F</td>
</tr>
</tbody>
</table>

**Other Classroom Policies:**

**Attendance Policy:** Attendance and punctuality are critical to the learning process. This is a distance learning class, so your attendance in the learning community in Blackboard is critical.

Please read the Elizabeth City State University Policy and Procedures Manual which can be found online at:
http://www.ecsu.edu/forms/facultystaff/policymanual.pdf

Please read the Elizabeth City State University Graduate catalog which can be found online at:

- **Drop Policy:** Please refer to university drop policy.

- **Missed Assignments / Make-up Work:** Assignments must be turned in on or before the due date. Late work will be assessed a penalty of 10 points per day after the due date.

**Policy on Academic Honesty:**
As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The examples and definitions given below are intended to clarify the standards by which academic honesty and academically honorable conduct are to be judged. The following list is merely illustrative and is not intended to be exhaustive.
• PLAGIARISM. Plagiarism is presenting another person’s work as one’s own. It includes paraphrasing or summarizing the works of another person without acknowledgement, including submitting another student’s work as one’s own.

• CHEATING. This involves giving or receiving unauthorized assistance before, during or after an examination.

• UNAUTHORIZED COLLABORATION. Submission for academic credit for a work, product or a part thereof, represented as being one’s own effort that has been developed in substantial collaboration with or without assistance from another person or source is a violation.

• FALSIFICATION. It is a violation to misrepresent material or fabricate information in an academic exercise or assignment.

• MULTIPLE SUBMISSIONS. It is a violation of academic honesty to submit substantial portions of the same work for credit more than once without the explicit consent of the instructor(s) to whom the material is submitted for additional credit. In cases where there is a natural development of research or knowledge in a sequence of courses, use of prior work may be desirable or even required.

Accommodation Statement:
ECSU is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

The university is required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels.

Any student in the class who has a disability that may prevent full demonstration of ability should contact the instructor personally before the end of the first week of classes so that a discussion can be held regarding accommodations necessary to ensure full participation and facilitate individual educational opportunities.