SYLLABUS
MATH 504 Current Trends in Mathematics Education
Course Number: MATH 504-01
(3 credits)

1. Locator Information

| Instructor: Dr. Peter Eley           |
| Phone Number: 910-672-1183         |
| Email Address: peley@uncfsu.edu     |
| Office Location: Butler 241-B      |
| Semester: Spring 2015              |
| Course Location: Butler 209 Lab.   |
| Meeting Day &Time: Tuesday 1-5pm Hybrid 6:00 PM – 8:50 PM |
| Office Hours: Tuesday & Thursday 10am-2pm and by appointment |
| Course Credit Hours: 3.0           |
2. **Course Description**
The primary purpose of this course is to explore mathematics education from methodological and research perspectives. This will be accomplished by developing teaching, research, writing, presentation, and discussion skills.

3. **Textbook & Software**
No Textbook required. All materials will be distributed via Blackboard and e-mail.

4. **Title IX – Sexual Misconduct**
Fayetteville State University (University) is committed to fostering a safe campus environment where sexual misconduct — including sexual harassment, domestic and dating violence, sexual assault, and stalking - is unacceptable and is not tolerated. The University encourages students who may have experienced sexual misconduct to speak with someone at the University so that the University can provide the support that is needed and respond appropriately. The Sexual Misconduct policy can be found at the following link: [http://www.uncfsu.edu/Documents/Policy/students/SexualMisconduct.pdf](http://www.uncfsu.edu/Documents/Policy/students/SexualMisconduct.pdf)

Consulting with a Health Care Professional - A student who wishes to confidentially speak about an incident of sexual misconduct should contact either of the following individuals who are required to maintain confidentiality:

- Ms. Pamela C. Fisher  
  Licensed Professional Counselor  
  Spaulding Building, Room 165  
  (910) 672-387  
  psmith@uncfsu.edu

- Ms. Linda Melvin  
  Director, Student Health Services  
  Spaulding Building, Room 121  
  (910) 672-1454  
  lmelvi10@uncfsu.edu

Reporting an Incident of Sexual Misconduct - The University encourages students to report incidents of sexual misconduct. A student who wishes to report sexual misconduct or has questions about University policies and procedures regarding sexual misconduct should contact the following individual:

- Ms. Victoria Ratliff  
  Deputy Title IX Coordinator for Students  
  Spaulding Building, Room 155  
  (910) 672-1222  
  vratliff@uncfsu.edu

**Student Learning Outcomes**

- **Degree Program**
  - The candidates will possess in-depth content knowledge to enhance 21st century skills in the specialty area that they teach.
  - The candidates will know how to implement pedagogical strategies based on the North Carolina Standard Course of Study, Common Core State Standards and CAEP.
  - The candidates will utilize technology to enhance instruction, learning, research, assessment and data management.
  - The candidates will demonstrate the value of diversity and promote instruction that is responsive to all learner needs.
  - The candidates will demonstrate leadership skills to advocate for students, communities, policies and practices that support student learning and development.
**North Carolina Professional Teaching Standards for Graduate Programs**

1: Teacher Leadership  
3: Content and Curriculum Expertise  
4: Student Learning  
5: Reflection  

**Specific Course Learning Outcomes**  
Upon completion of the course, the student will be able to:

1. Describe key learning theories or relate them to the use of technologies in teaching and learning of mathematics.
2. Summarize the history of technology in education.
3. Prepare an instructional design and lesson plan that demonstrates the effective use of technology in instruction of mathematics.
4. Identify and use the microcomputer hardware and software appropriate to a mathematical educational environment.
5. Evaluate the effectiveness of mathematical educational hardware and software.
6. Describe and demonstrate the application of key Internet and World Wide Web resources in teaching and learning mathematics.
7. Demonstrate an understanding of the critical educational, ethical, and social issues relating to technology in mathematical instruction.
8. Identify and describe how key emerging technologies are likely to have an impact on mathematics education.
9. Utilize the graphing calculators in the middle grades mathematics classroom as an instructional tool.

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**Fayetteville State University School of Education Conceptual Framework**

The vision of the School of Education at Fayetteville State University is predicated upon the belief that we prepare knowledgeable, reflective, and caring professionals for teaching and leadership roles in a global society. Our candidates leave their programs of study knowledgeable about their subject matter, experienced in the teaching process, and prepared to use their knowledge, skills, and abilities to help students succeed academically, as well as to improve family support of education in a technological and global society. The knowledge base represents and is organized around the philosophical and theoretical underpinnings of the seven key tenets of the conceptual framework (caring dispositions and ethical responsibility; communication; knowledgeable and reflective professionals; research and leadership; respect for diversity and individual worth; technological competence and educational applications; and working with families and communities).

The conceptual framework, explicated by a philosophy that is grounded in knowledge, has been a guiding force for program development, review, and assessment for over a decade. The conceptual framework embodies the standards by which programs unit-wide are developed, evaluated, and revised. It represents our system of beliefs, our values, and practices that determine how we instruct and interact with candidates, P-12 educators, students, and families. The conceptual framework builds on the unit’s vision and mission statements.

Through our philosophy, the conceptual framework provides direction for our curriculum and programs. It clearly identifies the knowledge base that under grids our curriculum and programs, what the unit will teach (based on state and national standards); explains how the unit will teach (based on our knowledge base and
sound research practices); why it teaches as it does and why these strategies will yield the required results for your knowledgeable, reflective, and caring professionals. It reiterates its commitments to diversity, research, leadership, and technology and delineates the dispositions, attitudes, and values we believe that our candidates should demonstrate.

The unit’s philosophy helps shape our conceptual framework themes and the knowledge base on which the candidates’ proficiencies, assessments, and evaluations measures are based. The conceptual framework is linked to our beliefs, values, and philosophy about teaching and learning. All facets of the conceptual framework are interrelated, interdependent, and interactive. Our themes are caring dispositions and ethical responsibility; communication; knowledgeable and reflective professionals; research and leadership; respect for diversity and individual worth; technological competence and educational applications; and working with families and communities. The candidate proficiencies, which are an outgrowth of the conceptual framework themes, are accomplished through teaching, research, and service.

The conceptual framework themes help to strengthen the unit’s and institution’s mission and vision of a caring candidate who has in-depth knowledge of teaching, students, and their families and who will be prepared for a diverse, technological, and global society today and in the future. The conceptual framework underscores the importance of assuring that our candidates understand the contemporary family and use that knowledge to help students learn, achieve, and succeed in life. The program helps our education professionals to develop sensitivity to all types of diversity and to practice responsive pedagogy. Candidates understand that technology is a tool to learn with and know how to utilize technology to enhance instruction, learning, research, and data management. The program produces teachers who become leaders in their schools, communities, and professional organizations. The unit graduates teachers and school executives who collect and analyze data and use research effectively to improve teaching and learning for all students. Caring teachers are committed to working with all learners, culturally diverse families, and in promoting the success of all students. In short, our conceptual framework was collaboratively developed, has been shared with all stakeholders, and is coherent, knowledge based, and consistently evaluated and updated.

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<thead>
<tr>
<th>Conceptual Framework Themes</th>
<th>School of Education Expectations</th>
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<tbody>
<tr>
<td>Caring Dispositions and Ethical Responsibility (1)</td>
<td>Candidates completing these programs are caring and ethically responsible teachers and school executives who are committed to working with all learners, diverse families, and promoting the success of all students.</td>
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<td>Communication (2)</td>
<td>Candidates understand the importance of world languages and communicate effectively and proficiently with all students, parents, peers, and administrators.</td>
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<td>Knowledgeable and Reflective (3)</td>
<td>Candidates should be knowledgeable about their subject matter and the teaching process, and they should use this knowledge to help students succeed academically, and to improve family support of education in a technological and global society.</td>
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<td>Research and Leadership (4)</td>
<td>Candidates completing these programs combine theory and practice in preparation to assume the roles of teacher leaders and school, district, and higher education executives. Candidates work to improve the profession and contribute to the establishment of positive working conditions. Candidates are taught to use research to expand their knowledge base and make evidence-based</td>
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Respect for Diversity and Individual Worth (5) | Candidates completing our programs develop sensitivity to all types of diversity and practice responsive pedagogy.

Technological Competence and Applications for Student Learning (6) | Candidates understand that technology is a tool that supports learning. Candidates incorporate technologies appropriately to enhance instruction, learning, research, and data management.

Working with Families and Communities (7) | Candidates understand and are able to identify the characteristics of diverse families and communities. Candidates will use that knowledge to help students learn, achieve, and succeed in life.

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**Course Outline/Schedule**

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<tr>
<th>Dates</th>
<th>Topic</th>
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<tr>
<td>January 13, 2015</td>
<td>Orientation/ Get to know you</td>
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<tr>
<td>January 20, 2015</td>
<td>Introduction to the National Database of Virtual Manipulatives, Current Trends with Manipulatives papers and discussion</td>
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<td>January 27, 2015</td>
<td>Hybrid Day (No Class Meeting)</td>
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<tr>
<td>February 3, 2015</td>
<td>Current Trends with Manipulatives papers and discussion</td>
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<tr>
<td>February 10, 2015</td>
<td>Hybrid Day (No Class Meeting)</td>
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<tr>
<td>February 17, 2015</td>
<td>Current Trends with Manipulatives papers and discussion Start of Math Discourse</td>
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<tr>
<td>February 24, 2015</td>
<td>Hybrid Day (No Class Meeting) Working on Projects</td>
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<tr>
<td>March 3, 2015</td>
<td>Hybrid Day (No Class Meeting) Working on Projects</td>
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<tr>
<td>March 10, 2015</td>
<td>Spring Break No Class</td>
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<tr>
<td>March 17, 2015</td>
<td>Current Trends on Mathematical Discourse (mini Presentations)</td>
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<tr>
<td>March 24, 2015</td>
<td>Hybrid Day (No Class Meeting) Working on Project Presentations</td>
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<tr>
<td>March 31, 2015</td>
<td>Current Trends on Mathematical Discourse (mini Presentations)</td>
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<tr>
<td>April 7, 2015</td>
<td>Hybrid Day (No Class Meeting)</td>
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<tr>
<td><strong>April 17, 2015</strong></td>
<td><strong>Excellence in Teaching Presentations</strong></td>
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<tr>
<td>April 21, 2015</td>
<td>Hybrid Day (No Class Meeting)</td>
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Assessment and Evaluation Criteria

Grading will be based upon your performance on the activities below:

- **A** 92-100
- **B** 83-91
- **C** 73-82
- **D** 64-72
- **F** below 64

**Assignments**

- **EITC Presentation** 20%
- **Mini Presentations** 20%
- **New Trends in Math Edu Paper.** 30%
- **Class Participation & Attendance** 10%
- **Reading Reflections** 20%

**New Research Tool Assignment:** Each student is required to research and present to the class in a new mathematical technology tool. Student will present how they believe this tool could help enhance mathematics learning in the classroom or contribute to advancing the field of Mathematics Education.

**Teaching Lesson Presentations:** Each student is required to present 3 different math lessons utilizing the technologies that are learned during the course for each of the following subjects, Algebra, Geometry and Statistics/Probability.

**Mathematic Technology Tool:** Each student is required to design 3 different math tools utilizing the technologies that are learned during the course for each of the following subjects, Algebra, Geometry and Statistics/Probability.

**Class Participation:** Each student is expected to read all assigned reading and be ready to discuss in class. Each student is expected to deep thinking and write 1 page critiques of the research studies that they read.

**INSTITUTIONAL GUIDELINES**

**Academic Integrity:** Dishonesty in Academic Affairs
Acts of dishonesty in any work constitute academic misconduct. Such acts include cheating, plagiarism, misrepresentation, fabrication of information, and abetting any of the above. Plagiarism in particular presents pitfalls to be avoided: failure to document any words, ideas, or other contributions that do not originate with the author constitutes plagiarism. Widespread use of the World Wide Web (Internet) requires particular attention to proper documentation practices. Individual course syllabi offer additional clarification about requirements for proper documentation. Actions outlined in the Fayetteville State University Student Handbook under Disciplinary System and Procedures will be followed for incidents of academic misconduct. The handbook may be obtained from the Office of Student Affairs located in the Collins Administration Building. *Fayetteville State University Undergraduate Catalog pg. 85*
Behavior in the Classroom
The Code of the University of North Carolina (of which FSU is a constituent institution) and the FSU Code of Student Conduct affirm that all students have the right to receive instruction without interference from other students who disrupt classes.

FSU Core Curriculum Learning Outcome under Ethics and Civic Engagement (6.03): All students will “prepare themselves for responsible citizenship by fulfilling roles and responsibilities associated with membership in various organizations.” Each classroom is a mini-community. Students learn and demonstrate responsible citizenship by abiding by the rules of classroom behavior and respecting the rights all members of the class.

The FSU Policy on Disruptive Behavior (see FSU website for complete policy) identifies the following behaviors as disruptive:
1. Failure to respect the rights of other students to express their viewpoints by behaviors such as repeatedly interrupting others while they speak, using profanity and/or disrespectful names or labels for others, ridiculing others for their viewpoints, and other similar behaviors;
2. Excessive talking to other students while the faculty member or other students are presenting information or expressing their viewpoints;
3. Use of cell phones and other electronic devices;
4. Overt inattentiveness (sleeping, reading newspapers);
5. Eating in class (except as permitted by the faculty member);
6. Threats or statements that jeopardize the safety of the student and others;
7. Failure to follow reasonable requests of faculty members;
8. Entering class late or leaving class early on regular basis; and
9. Others as specified by the instructor.

The instructor may take the following actions in response to disruptive behavior. Students should recognize that refusing to comply with reasonable requests from the faculty member is another incidence of disruptive behavior.
1. Direct student to cease disruptive behavior;
2. Direct student to change seating locations;
3. Require student to have individual conference with faculty member. At his meeting the faculty member will explain the consequences of continued disruptive behavior;
4. Dismiss class for the remainder of the period; (Must be reported to department chair)
5. Lower the student’s final exam by a maximum of one-letter grade; or
6. File a complaint with the Dean of Students for more severe disciplinary action.

Students who believe the faculty member has unfairly applied the policy to them may make an appeal with the faculty member’s department chair.

Class Attendance
Students are expected to attend all class meetings, laboratories, and other instructional sessions for all courses in which they are enrolled. Students are also expected to arrive to class on time and remain in class for the entire scheduled period. Likewise, students are expected to complete all assigned Blackboard activities within the assigned window of time. When students must miss class(es) for unavoidable reasons, i.e., illness, family emergencies, or participation in official university sponsored activities – they are responsible for informing faculty of the reasons for the absences, in advance if possible, and completing all missed assignments.

During the first half of the semester/term, faculty will assign an interim grade of “EA,” Excessive Absences, for students whose class absences exceed 10% of the total contact hours for the class. Students who receive EA interim grades must either withdraw from the class or resume attendance. Students who resume attendance
must consult with the instructor about completion of missed assignments. The EA is not a final grade, so students who are assigned an interim grade of EA, but do not withdraw from the class, will receive a final grade based on the evaluation criteria for the class.

**Excused Absences**

Students shall be allowed a minimum of two (2) excused absences each academic year for religious observances required by the faith of the student. Such absences must be requested in accordance with the procedures in this Policy.

The minimum of two (2) excused absences from classes for religious observances shall not be counted against any mandatory attendance requirements; however beyond the minimum stated in this Policy, instructors shall maintain authority to establish and enforce the attendance policy for the courses they are teaching.

Students shall be given the opportunity to make up tests and other work missed due to an excused absence for a religious observance. Students shall not be relieved of their responsibility for any part of the course work required during their period of absence. Instructors may appropriately respond if a student fails to satisfactorily complete any alternative assignment or examination.

**Requesting an Absence due to Religious Observance**

A. At least ten (10) calendar days prior to the date of the observance, a student shall complete the Request for Class Absence Due to Required Religious Observance form and submit it to the Center for Personal Development.

B. If the student has provided the Request for Class Absence Due to Required Religious Observance form to the Center for Personal Development in the time prescribed, the student shall be granted the excused absence as prescribed by this Policy. The Center for Personal Development shall be responsible for notifying the student’s instructors of the student’s approved absence.

C. The Center for Personal Development shall also be responsible for denying a student’s request should the student have exceeded the student’s two (2) excused absences, as allowed by this Policy. In such instances, the student should make a request for an excused absence due to a religious observance directly to the student’s instructors. The instructor will evaluate the student’s request according to the guidelines in the course syllabus regarding excused absences. If the student’s request is approved, the student shall be responsible for completing all make-up assignments.

**Grade of Incomplete**

A grade of incomplete will only be assigned upon mutual agreement between instructor and student and in the case of extremely extenuating circumstances. Extenuating circumstances might include significant health issues or death in the immediate family. A contract will be developed between student and instructor outlining a plan for course completion and deadline for work to be submitted.

**Withdrawal from Class**

Complete the form available on the registrar’s website [http://www.uncfsu.edu/registrar/forms.htm](http://www.uncfsu.edu/registrar/forms.htm), obtain signatures from instructor and advisor, then return completed form to Registrar’s office. You will not receive any refund of tuition and fees for withdrawing from a class. You should strive to earn credit for any and all classes you are enrolled in. If you are withdrawing from all the courses in which you are enrolled, even if you are enrolled in only one course, you must withdraw from the university. Excessive withdrawals will jeopardize your financial aid. Ask Financial Aid about the 67% rule. Effective fall 2009 you will be permitted five no-penalty class withdrawals only. After 5 they will be calculated as "F".
Withdraw from the University
Withdraw from University means you are withdrawing from all classes for the semester due to circumstances that prevent you from being able to complete classes. Locate the deadlines for the drop/add period and withdrawal at the Office of the Registrar’s website: http://www.uncfsu.edu/registrar/index.htm Also, in addition to your instructor, contact the Center for Personal Development at (910) 672 1203/1222 for additional support and information regarding special circumstances that prevent you from being able to complete classes.

Disabled Student Services
In accordance with Section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act (ADA) of 1990, if you have a disability or think you have a disability to please contact the Center for Personal Development in the Spaulding Building, Room 155 (1st Floor); 910 672 – 1203.

FSU Policy on Electronic Mail
Fayetteville State University provides to each student, free of charge, an electronic mail account (username@uncfsu.edu) that is easily accessible via the Internet. The university has established FSU email as the primary mode of correspondence between university officials and enrolled students. Inquiries and requests from students pertaining to academic records, grades, bills, financial aid, and other matters of a confidential nature must be submitted via FSU email. Inquiries or requests from personal email accounts are not assured a response. The university maintains open-use computer laboratories throughout the campus that can be used to access electronic mail. Rules and regulations governing the use of FSU email may be found at http://www.uncfsu.edu/PDFs/EmailPolicyFinal.pdf

Inclement Weather
We will follow the Fayetteville State University inclement weather schedule. Consult the university webpage, local radio and television statements for announcements. While the university may be closed, online courses may continue as scheduled.

Register your phone for emergency text alerts (optional). FSU has a state-of-the-art emergency alert system. One part of that system allows students to register a cell phone to receive text alerts about emergency situations on campus (e.g., closure due to inclement weather). To register a phone,

- Go to the FSU Bronco Alert Emergency Message Sign-Up page.
- Enter your Banner ID.
- Enter your cell phone number, then enter it again to verify.
- Click Submit.

References


