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Course Syllabus
EDCI 5140: Teaching of Elementary School Mathematics (3 cr.)
Dr. Thomas Wright
Fall 2015 ~ Thursdays 5:00-7:45pm ~ Bicentennial Education Center Room 305-O

Office Hours and Location
Office Phone: 504-280-6524
Email: tdwright@uno.edu or

Office: ED 342-T
Office Hours: Mondays & Thursdays 3 – 5pm, by appointment in-person or on Second Life

Contact Info of 3 classmates:
1) _______________________________________
2) _______________________________________
3) _______________________________________

Regular Online Communication: Moodle & email

In the event of a hurricane evacuation, we will as soon as possible move to an online course and continue until further notice. Class messages will be posted through Moodle / Google Drive and classes will likely be taught through Second Life. My username is Snelgrove Nightfire. You would do well to establish an online presence there and familiarize yourself with the UNO campus in Second Life. See http://www.virtualcampus.uno.edu.

Course Description
In this course we will work on mathematical topics appropriate for you, as well as focus on the teaching of elementary school mathematics for grades K-8. This course is designed to facilitate disciplined reflective inquiry into the education process through the interaction of theory and practice. Throughout the course you will be encouraged to reflect on your learning as a tool for thinking about how learning happens.

The philosophy of this course is that people of all ages and learning styles learn best in an environment in which they are free to explore topics and come to their own understanding. This environment includes working cooperatively with others from diverse backgrounds in heterogeneous settings and is consistent with the College of Education and Human Development’s mission to prepare professionals who practice in culturally diverse settings.

Students enrolled in courses with field experiences will be required to enter both the location and number of field experience hours completed to meet the requirements of this course into Live Text (e-portfolio). This requirement must be completed to earn any credit aligned with field experience assignments. Candidates will also be required to document completion of a required number of field experience hours at various points in the program of study. The only documentation that will satisfy this requirement will be data in the Live Text portfolio. Thus, it is critical that candidates record all field experience information.

Because this is a course for aspiring teachers, the following terminology will be used throughout the syllabus and course assignments. “Teacher candidates” will be the term used to refer to students enrolled in the UNO course, EDCI 5240. “K-12 students” or “students” will be used to refer to the students in field-based settings who will be observed and taught by teacher candidates to meet the course requirements for EDCI 5240.

As a result of successfully completing the course, students will have demonstrated and documented major standards and themes for teaching and learning as summarized below.
The COEHD Conceptual Framework

Our conceptual framework, the theory-practice-research interaction model, permeates the programs preparing candidates for professional roles in school settings. As candidates progress through their professional studies, they are introduced to formal theories and concepts that are validated by research, which along with their personally held beliefs and assumptions, inform their professional practice. The roles and responsibilities set out the broad domains for developing competence of teacher candidates viewed through the lens of the theory-practice-research interaction model. As candidates engage in various clinical and field experiences included in their program of study, observation and study of professional practices inform and refine the educational theories and concepts they construct. Our goal is to have our candidates internalize the theory-practice-research interaction model, as they develop into reflective practitioners constantly reassessing the educational theories, beliefs, and assumptions they embrace.

College Mission: The mission of the College of Education and Human Development is to improve teaching and leadership, advance lifelong learning, and promote health and wellness through enhanced community partnerships. The unit’s purpose is to prepare reflective practitioners who develop, implement, and evaluate effective education and human development programs/services through a program of study grounded in the interaction of theory, practice, and research.

I. EFFECTIVE TEACHERS MANAGE CLASSROOM CONTEXTS AND ENVIRONMENTS
   A. They establish a culture for learning by:
      1. Managing classroom procedures (COMPASS 2c)
      2. Managing student behavior
      3. Organizing physical space
      4. Organizing classrooms to integrate technology
      5. Maintaining accurate records using available technology
   B. They create an environment of respect and rapport by:
      1. Using cultural contexts in the classroom
      2. Demonstrating knowledge of diversity among students
      3. Presenting rationales for change to meet students needs

II. EFFECTIVE TEACHERS DESIGN CURRICULUM AND INSTRUCTION
   A. They understand and use curriculum and instruction by:
      1. Knowing content
      2. Knowing pedagogy
      3. Setting instructional outcomes (COMPASS 1c)
      4. Designing coherent instruction
      5. Designing student assessments
      6. Incorporating knowledge of diversity in the classroom
      7. Planning for the use of technologies in curriculum and instruction
      8. Demonstrating knowledge of resources, including technologies
9. Planning for the use of collaborative group practices in the classroom

B. They communicate effectively by:
   1. Incorporating effective written communication in the classroom
   2. Incorporating effective oral communication in the classroom

III. EFFECTIVE TEACHERS DELIVER INSTRUCTION AND ASSESS LEARNING

A. They engage students in active learning (COMPASS 3c) by:
   1. Interacting effectively with students
   2. Demonstrating flexibility and responsiveness
   3. Integrating technology and other resources

B. They integrate disciplines into instruction by:
   1. Applying connections to multiple disciplines
   2. Demonstrating connections to real life

C. They use assessment in instruction by:
   1. Incorporating performance tasks in the classroom
   2. Using questioning and discussion techniques (COMPASS 3b)
   3. Using pre-assessment, formative assessment, and summative assessment appropriately (COMPASS 3d)

D. They embed diversity in decision-making by:
   1. Selecting resources
   2. Delivering instruction
   3. Assessing learning

IV. EFFECTIVE TEACHERS PARTICIPATE IN PROFESSIONAL RESPONSIBILITIES

A. They advocate for children, in terms of services and supports by:
   1. Communicating with families
   2. Demonstrating knowledge of resources in school and the community

B. They collaborate to improve professional practice by:
   1. Engaging in a professional community
   2. Participating in professional development
   3. Collaborating with teachers and mentors
   4. Developing goals for social justice
   5. Using research-based practices that include current available technology

C. They reflect on teaching and learning by:
   1. Focusing on cultural contexts and social justice
   2. Collecting and analyzing data to improve practice

Required / Recommended Textbooks / Learning Resources

2) Bringing the Common Core Math Standards to Life (Germain-McCarthy) ISBN 9780415733410
4) Course Supplement (from the professor)
5) One 3-ring binder and one 2-pocket folder for Final Portfolio
6) The Purdue Owl website (http://owl.english.purdue.edu/owl/resource/560/01/) can answer many of your questions regarding APA format.

Selected readings from Mathematics Teacher, Mathematics Teaching in the Middle School, Journal for Research in Mathematics Education, and other professional journals will be distributed in class.
Course Alignment to Standards

Unit Standards

Refer to the Following Roles:

<table>
<thead>
<tr>
<th>1</th>
<th>Design and deliver instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Manage time, tasks, and environments</td>
</tr>
<tr>
<td>3</td>
<td>Advocate for children, services, and supports</td>
</tr>
<tr>
<td>4</td>
<td>Use inquiry to inform practice</td>
</tr>
<tr>
<td>5</td>
<td>Collaborate to support group practice</td>
</tr>
<tr>
<td>6</td>
<td>Improve classroom and system practice</td>
</tr>
</tbody>
</table>

State Standards

Refer to Louisiana Components of Effective Teaching (LCET). These standards are also documented by the UNO Evidence Set (details later follow).

| I A | The teacher plans effectively for instruction |
| II A | The teacher maintains an environment conducive to learning |
| II B | The teacher maximizes amount of time available for instruction |
| II C | The teacher manages learner behavior to provide productive learning opportunities |
| III A | The teacher delivers instruction effectively |
| III B | The teacher presents appropriate content |
| III C | The teacher provides opportunities for student involvement in the learning process |
| III D | The teacher demonstrates ability to assess and facilitate student academic growth |
| IV A | The experienced teacher plans for professional self-development |
| IV B | The new teacher plans for professional self-development |
| V A | The teacher takes an active role in building-level decision making |
| V B | The teacher creates partnerships with parents/caregivers and colleagues |

Objectives Alignment with Unit and State Standards

In addition to the identified goals and objectives, this course addresses UNO Teacher Roles and Louisiana State COMPASS Standards.

COEHD Requirements / Standards

COEHD Conceptual Framework - “Theory-Practice-Research-Interaction”

Goal: Preparing Reflective Practitioners

Roles and Responsibilities of Professionals in Teacher Education

1. Effective teachers **manage classroom contexts and environments.**
   - They establish a culture for learning.
   - They create an environment of respect and rapport.

2. Effective teachers **design curriculum and instruction.**
   - They understand and use curriculum and instruction.
   - They communicate effectively.

3. Effective teachers **deliver instruction and assess learning.**
   - They engage students in active learning.
   - They integrate disciplines into instruction.
   - They use assessment in instruction.
   - They embed diversity in decision-making.

4. Effective teachers **participate in professional responsibilities.**
   - They advocate for children, in terms of services and supports.
   - They collaborate to improve professional practice.
   - They reflect on teaching and learning.
SPU Requirements / Standards

DEVELOPMENT, LEARNING, AND MOTIVATION. 1.1 Development, Learning, and Motivation — Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students’ development, acquisition of knowledge, and motivation.

CURRICULUM. 2.3 Mathematics — Candidates know, understand, and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. In doing so they consistently engage problem-solving, reading and proof, communication, connections, and representation.

INSTRUCTION. 3.1 Integrating and applying knowledge for instruction — Candidates plan and implement instruction based on knowledge of students, learning theory, connections across the curriculum, curricular goals, and community; 3.2 Adaptation to diverse students — Candidates understand how middle and secondary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students; 3.3 Development of critical thinking and problem solving — Candidates understand and use a variety of teaching strategies that encourage elementary students’ development of critical thinking and problem solving; 3.4 Active engagement in learning — Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the 4-8 and 6-12 level to foster active engagement in learning, self-motivation, and positive social interaction and to create supportive learning environments; 3.5 Communication to foster collaboration — Candidates use their knowledge and understand the effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the middle and secondary classroom.

ASSESSMENT. 4.0 Assessment for instruction — Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate, and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each middle and secondary student.

PROFESSIONALISM. 5.1 Professional growth, reflection, and evaluation — Candidates are aware of and reflect on their practice in light of research on teaching, professional ethics, and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, families, and other professionals in the learning community and actively seek out opportunities to grow professionally; 5.2 Collaboration with families, colleagues, and community agencies — Candidates know the importance of establishing and maintaining a positive collaborative relationship with families, school colleagues, and agencies in the larger community to promote the intellectual, social, emotional, physical growth, and well-being of children.

ACEI Standards

1. Development, learning and Motivation: Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students’ development, acquisition of knowledge, and motivation.

2. Curriculum 2.3: Candidates know, understand, and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. In doing so they consistently engage problem solving, reasoning and proof, communication, connections, and representation;

3. Instruction 3.1 Integrating and applying knowledge for instruction —Candidates plan and implement instruction based on knowledge of students, learning theory, connections across the curriculum, curricular goals, and community; 3.2 Adaptation to diverse students —Candidates understand how elementary students differ in their development and approaches to learning, and create instructional opportunities that are adapted to diverse students; 3.3 Development of critical thinking and problem solving —Candidates understand and use a variety of teaching strategies that encourage elementary students’ development of critical thinking and problem solving; 3.4 Active engagement in learning —Candidates use their knowledge and understanding of individual and group motivation and behavior among students at the K-6 level to foster active engagement in learning, self-motivation, and positive social interaction and to create supportive learning environments;
3.5 Communication to foster collaboration—Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom.

4. Assessment: Candidates know, understand, and use formal and informal assessment strategies to plan, evaluate and strengthen instruction that will promote continuous intellectual, social, emotional, and physical development of each elementary student.

5. Professionalism:
   5.1 Professional growth, reflection, and evaluation—Candidates are aware of and reflect on their practice in light of research on teaching, professional ethics, and resources available for professional learning; they continually evaluate the effects of their professional decisions and actions on students, families and other professionals in the learning community and actively seek out opportunities to grow professionally.
   5.2 Collaboration with families, colleagues, and community agencies—Candidates know the importance of establishing and maintaining a positive collaborative relationship with families, school colleagues, and agencies in the larger community to promote the intellectual, social, emotional, physical growth and well-being of children.

**National Standards / NAEYC**

1. Promoting child development and learning
2. Building family and community relationships
3. Observing, documenting, and assessing to support young children and families
4. Teaching and learning:
   a. Connecting with children and families
   b. Using developmentally effective practices
   c. Understanding content knowledge in early education
   d. Building meaningful curriculum
5. Becoming a professional

**Themes Permeating All Standards**

Assessment, Behavior Support, Diversity, and Technology

**Diversity of Learning**

The content of this course and its associated activities are designed to help meet the needs and concerns of diverse learners. The assessment and instructional approaches are appropriate for students regardless of sex, age, religion, ethnicity, sexual orientation, or nation of origin.

**Course Objectives and Standards Alignment**

<table>
<thead>
<tr>
<th>STUDENTS WILL BE ABLE TO:</th>
<th>UNO Roles</th>
<th>LCET</th>
<th>ACEI</th>
<th>NAEYC</th>
</tr>
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<tbody>
<tr>
<td>1. Demonstrate strategies for teaching and enhancing acquisition of concepts and computational skills using a variety of materials and methods.</td>
<td>1, 2</td>
<td>1. 2(a, b, c) 3(a, b, c, Vb</td>
<td>2.3 3(.1 - .5)</td>
<td>1, 4a-d, 5</td>
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<tr>
<td>2. Develop and apply alternative assessments to analyze a child’s understanding of a topic.</td>
<td>1 - 6</td>
<td>1, 2(a, b, c) 3(a, b, c, Vb</td>
<td>2. 3 3(.1 - .5) 4, 5(.2, .3)</td>
<td>1, 3, 4(a-d), 5</td>
</tr>
<tr>
<td>3. Develop and teach reform-based lesson plans to children based on the Louisiana Component of Effective Teaching (LCET).</td>
<td>1 - 6</td>
<td>1, II(a, b, c) III(a, b, c, Vb</td>
<td>2. 3 3(.1 - .5) 4, 5(.2, .3)</td>
<td>1, 3, 4(a-d), 5</td>
</tr>
<tr>
<td>4. Identify and explore sophisticated strategies adaptable to any population of students.</td>
<td>4</td>
<td>3b, c</td>
<td>2.3</td>
<td>3.2</td>
</tr>
<tr>
<td>5. Develop understandings of classroom management</td>
<td>2, 4, 5</td>
<td>2(a, b, c) 3c</td>
<td>2.3</td>
<td>1, 4(a-d),</td>
</tr>
</tbody>
</table>
and motivational techniques for multicultural classroom settings through field experiences in the elementary schools.

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<tr>
<td>6. Discuss the scope and sequence for teaching 6-12 mathematics as reflected in the Louisiana Frameworks and the NCTM Standards.</td>
<td>5</td>
<td>1, 2b, 3a, b, Vb</td>
<td>2.3</td>
<td>5.2</td>
</tr>
</tbody>
</table>

**Diversity of Learning**

The content of this course and its associated activities are designed to help meet the needs and concerns of diverse learners. The assessment and instructional approaches are appropriate for students regardless of sex, age, religion, ethnicity, sexual orientation, or nation of origin.

**Learning Opportunities**

- **ATTENDANCE POLICY.** Attendance in class is mandatory. Copying someone else’s notes cannot duplicate discussions or idea sharing. There will be a 3-point deduction for arriving to class after the beginning of class. Call a classmate for information missed. Points are deducted from your average for each absence not excused by a physician. 5 points for the first absence; 10 points for the second. After three (3) unexcused absences, you must drop the course. Not doing so will result in a non-passing grade.

**Statement on Student Conduct**

- **PARTICIPATION AND RESPONSIBILITY.** Participation is more than talking in class. Participation means allowing oneself to become engaged in the learning process. The following are examples of good class participation:
  - Contributing interesting, insightful comments
  - Presenting good examples of what is being discussed
  - Raising good questions
  - Listening and responding appropriately to others’ comments
  - Being sensitive to your level of participation, making attempts to increase or decrease it if necessary
  - Arriving on-time for class.

- **TEACHING.** Students are expected to take part in hands-on teaching experiences as they arise either in their own classes or in a local school. Assignments may include, but are not limited to: tutoring individual students, working with groups, leading problem sessions, grading assignments, preparing and presenting a whole class lesson. This class will expose you to teaching content to your peers—content and pedagogy.

- **CELL PHONES.** Please turn off cell phones during class (this is not the same as on vibrate). If you have an unusual circumstance, please inform me ahead of time. Please do not leave them on the desks/tables or in your laps.

**Criteria for Grading**

It is expected that you submit all of the required course assignments in order to attain an understanding of teaching of mathematics to students. All assignments are expected on the designated due date and are to be completed in a professional, appropriate manner. All assignments should be typed.

On all written work, I expect you to demonstrate correct use of the English language with regard to grammar, punctuation, and spelling—I do grade on technical writing skills as well as content. Please proofread your work before submitting it. If you have weaknesses in the area of grammar, punctuation, or spelling, find
someone who will proofread your work for you before you turn it in. Please adhere to **APA formatting** for assignments submitted to the College of Education and Human Development.

It is also expected that all work you hand in will be your own work and done specifically for this course only. Do not use articles or other work from another course. Unless stated otherwise, all assignments are individual projects. I do not mind if you discuss your work with others in the class but you are to complete each assignment individually. Any indication that you are handing in someone else’s work or work from another class will result in immediate failure in this class. Grades are assigned according to the table of grades and scores given in the syllabus.

**Policy on Late Assignments.** I expect that assignments will be turned in by the announced due dates and times. I will accept assignments after the due date, but your grade will decrease by 10% of the allocated points for each day the assignment is late.

**Policy on Computer Accidents.** Please make sure you save your work frequently and keep backup copies of your files when using a word processor. **Computer accidents, while very unfortunate, are not an acceptable excuse to avoid penalties for late work.**

Each typed assignment to be graded must have the following footer on the bottom of each page:

You Name            EDCI 5140            assignment name and page number

You will have assignments that you are expected to complete **on time.**

Please note that a grade on an assignment is neither a judgment of you as a person or of the amount of time or effort you spent on these items, but rather of the quality of your work. Note also that **All** of the course requirements must be completed in order to attain a passing grade, as well as a C or better on the oral exam.

**Additional Information Related to Course Requirements**

A. **Statement on Academic Integrity:** Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity and being an accessory to acts of academic dishonesty. Refer to the UNO Student Code of Conduct for further information. The Code is available online at [http://www.studentaffairs.uno.edu](http://www.studentaffairs.uno.edu).

B. **Accommodations for Students with Disabilities:** It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities should contact the Office of Disability Services as well as their instructors to discuss their individual needs for accommodations. For information, please go to [http://www.ods.uno.edu](http://www.ods.uno.edu)

**Course Assignments**

All assignments are expected on the designated due date and are to be completed in a professional, appropriate manner. Late assignments are penalized 10% of their graded value or 1 point, which ever is greater. Assigned work, other than calculations, may not be done in pencil.

The assignments outlined below become part of your working portfolio out of which you will build your portfolio. A portfolio is a collection of your work, which represents and documents your accomplishments in a
given field. A portfolio does not include everything that you do in a field; instead, it should showcase what you are capable of doing, and it should show your growth over time. In this course you will compile a portfolio of your mathematical work, together with your assessment of that work and your reflection of yourself as a future mathematics teacher. Working portfolios may be kept in a two-pocket folder and will be collected by groups. Students are assigned to groups according to the months of their birthdays:

**Group A:** January – April  **Group B:** May – August  **Group C:** Sept. – Dec.

Assignments should be stapled together only if they are of the same assignments. For example, if Board work #1 contains 6 problems, all 6 should be stapled together. Thus, dissimilar assignments must not be stapled together. For example, do not staple Board work #1 with Board work #2, or Reflection #1 with Reflection #2. When submitting revised work, the revised assignment (with the revisions highlighted) must be stapled to the front of the older version. Because guidelines are given for each assignment, points will be deducted for incomplete work.

The items to consider for placement in your portfolio are described below, though you may include additional work that you feel is worthwhile.

*Each assignment should be completed on the due date, as class activities may warrant discussion of the assignments. They are to be turned in to the instructor for grading according to the schedule established on the course calendar. Rubrics to clarify the more difficult assignments are included. Due dates can be found in the course calendar located at the end of this syllabus.*

1. **Initial Journal Assignment**
   Write about your strengths and weaknesses and address each of the following questions: (1) How have math courses you have taken in the mathematics department impacted your understanding, feelings or perception of mathematics? (2) What is your teaching philosophy? (3) What is your mathematical teaching philosophy? (4) Why will you succeed in this course? (5) What personal and professional qualities do you have that will enhance your learning throughout the semester? (6) What do you bring to the community of learners who have chosen this course? (7) What expectations do you have of the community of learners who chose this course? (8) Rate your level of math content knowledge anxiety on a scale of zero (none) to 10 (high). (9) Do similarly for math teaching anxiety. (10) Explain why you chose that score. This journal will be the first entry in your portfolio. To receive full credit, answer all of the questions.

2. **Reflections on readings and class**
   You will be reflecting on your growth throughout the course. While this assignment is designed as an assessment of your learning, it also gives you the opportunity to reflect upon the experiences you have in this course as well as other experiences connected with the course. Write no more than 4 pages (12-point, double-spaced) reflection on your learning. Each entry must be dated and numbered. Each reflection should be stapled by itself (i.e., Reflection 1 should have its own staple; Reflection 2 should have its own staple, etc.). You should reflect on:
   a. All of the course readings-outline important points;
   b. Your reactions to our class, looking at yourself as a learner of mathematics and reflecting upon the processes you use to learn;
   c. Your learning of mathematics, your learning about learning and teaching, your confusion, new ideas, questions, etc.;
   d. How you think you would use ideas and activities presented in class in your own classroom;
   e. Any modifications you would make to strategies suggested by others;
   f. Resources that you find particularly helpful during the course.

3. **Research Journal Analysis**
   Write a critical analysis of an academic journal article from the Journal for Research in Mathematics Education (JRME). The article should be recent (published within the last 3 years). In your analysis, give a summary of
the main point(s) of the article including, but not limited to: The purpose of the study, research questions, significance of the study, implications for policy and practice, the methodology used, the methods for data collection, research findings, and implications for future research. If you choose to give a thumbnail sketch of the review of related literature, this should be very brief. Your reflection should be typed using APA formatting, including 4-5 double-spaced pages, an APA-formatted title page, and an APA-formatted reference page. See http://owl.english.purdue.edu/owl/resource/560/01/ for formatting guidance.

4. Academic Article Prezi & Handout
For this presentation, you will select an article from the academic journal of your choice on the implementation of Common Core State Standards, teacher evaluations (using Compass or other teacher evaluation rubric), or the PARCC (or non-PARCC) assessments. The presentation should include hand-outs; your presentation should utilize the online presentation software Prezi (www.prezi.com). There is no paper to write. Instead, (1) you will copy the link to our discussion board on Moodle.

5. Internet Lesson Review
Use a search engine to find and submit a math lesson from the Internet that is at least three pages long. Use the NCTM website or LaDOE. Write a review of the lesson’s adherence to the NCTM Principles and Standards as described in Germain-McCarthy’s book.

6. Peer Teaching
You will create and teach two 20-minute reformed-based lessons: One from the Internet and the other from the manipulative kit. You are to FACILITATE your group’s understanding of the chosen content. The lesson should model the standards set forth by LCET and Compass. A lesson format will be discussed in class and must be followed. For each member of your group, Xerox your lesson plan and any materials needed for the lesson. Note that a reflection is due one week after the lesson has been taught and should be placed before the lesson. Rubric follows.

7. Board Work
Problems from the board will be assigned periodically and reviewed to extend practice with manipulatives. We will go over any questions you may have each class period. They will be checked with the portfolios. Please write the question, show all of your work with explanations of your thinking/process, and the answers.

8. Manipulative Kit Evaluations
For this assignment, you are to read activities from the binder in your manipulative kit and discuss it. Do you find it useful? How would you modify it for other grades? Is there anything else that you would do to enhance this activity? MK1-3 is one assignment; MK4-6 is the second.

9. Field Experience Requirements
PLEASE NOTE: Field experiences included in this course support candidates in addressing unit, state, and national standards. Candidates are required to enter both the location and number of field experience hours completed to meet the requirements of this course into Live Text (the e-portfolio system). This requirement must be completed to earn any credit aligned with field experience assignment. A minimum of 20 hours of field experience work is required.

10. Assessment Lessons
You will create lessons to assess your children’s understanding of mathematical concepts three different ways: (1) Interviews, (2) observations, and (3) performance assessment. Each of these assessment assignments will be used to guide your daily lesson planning and each should be done through an activity—not just paper and pencil. You will administer these in the order that makes the most sense for your students. This
is considered and advocacy project because you will use the assessments to make plans for furthering the students’ progress.

The assessment lessons should provide information about students’ conceptual understanding of selected mathematics topics. (Assessments should NOT focus on procedures or recall.) Each assessment lesson should follow the general outline for a lesson plan. Each revised lesson must be clipped with its original, reflections, evaluation and student work.

You will then conduct the assessment with the students. You should collect students’ work, “grade” it, and write an evaluation, which includes:
- A statement on what you intended to measure
- A summary of how each student performed on the math content.
- A summary of each student’s disposition for learning the math content.
- A summary of what you learned.
- A statement on your instructional plans based on the assessment.
- Students’ work with score for each student’s work and rubric. Report student’s score as a percentage correct. You may choose NOT to share this score with students.

A. **Interview Assessment Lesson**
Write a lesson for conducting an interview in order to determine strengths and weaknesses related to the chosen mathematical topic. Do the interview and be sure to focus on the targeted mathematics. Include paper and pencil calculations. Record your students’ responses and complete the directions above.

B. **Performance Assessment Lesson**
Create a task for students to complete and write and teach a lesson that includes a rubric to score the students’ performances. Complete the directions above. A minimum of 4 children is required.

C. **Observation Assessment Lesson**
Choose one particular mathematics topic, one behavioral characteristic, and one way to observe students. Write and teach a lesson with an observation rubric and complete the directions above. A minimum of 4 children is required.

11. **Final Journal Assignment**
This journal will tie together all your experiences and growth up to the end of the class. It should not be a cut and paste of sections in the original journal. Rethink and rewrite your mathematical teaching philosophy, note connections you have made, the educational experiences you've had in this course, out of class enhancement activities, field experiences. Write about your strengths and weaknesses. What personal and professional qualities have enhanced your learning throughout the semester? What personal and professional qualities have limited your learning throughout the semester? What did you bring to the community of learners who have chosen this course? Were your expectations of that community of learners realized? How will the experiences gained from this course prepare you for teaching? Rate your level of math anxiety on a scale of zero to 10 and compare it to the initial score. Explain why you chose that score. Since no course can uncover all that you will need to become a great teacher, what topics or methodologies discussed in the course do you need to pursue further?

12. **The Portfolio Assessment**
See the detailed section (#14) below. There is also a sample at the end of the Course Supplement.

13. **The Portfolio Assessment: Artifact Instructions**
As you proceed through your teacher education program at UNO, you will be collecting work samples to demonstrate your developing knowledge, skills, and dispositions as a teacher. The standards from the Association of Childhood Education International (ACEI) and the evidence sets developed by our teacher
education program in correlation with the Louisiana Components of Effective Teaching (LCET) will be used to evaluate your performance. The directions and rubric for this assessment are attached to this syllabus. For more information on these standards, go to: www.acei.org.

While reflecting, **analyze** and **outline** the important artifacts for discussion. **Synthesize** your findings in such a way as to relate them to your current or teaching environment in elementary mathematics. **Evaluate** the following: Are there some ideas that are fully implementable in your current or future classroom? Are there some ideas that look good in theory but may produce issues when implemented in your urban-setting classroom.

**Context**
For this Mathematics Portfolio Assessment, you should select at least 10 artifacts from your portfolio or math courses and reflect on what each artifact represents about your development as a mathematics teacher. Please review the standards below and choose artifacts of your learning that provide evidence of as many of these standards as possible. In your written reflection, describe each artifact that you selected, which standards it exemplifies, and why you think each particular artifact demonstrates evidence of the selected standards. The first five elements are best met with artifacts from your mathematics courses or math methods homework. Artifacts that demonstrate your impact on elementary student learning will likely have been developed as lessons for the field components of your mathematics methods courses. Remember that most artifacts will demonstrate multiple standards. Do not choose reviews of articles or lessons, or manipulative kit activities.

**Purpose**
The purpose of this assessment is to demonstrate your developing knowledge, skills, and dispositions as a teacher. The elements of Standard 2.3: Mathematics from the Association of Childhood Education International (ACEI) will be used to evaluate your performance. A paraphrased description of these elements is listed below, and the accompanying scoring rubric describes how you will be rated on each of these standards.

Please begin with artifacts from this course or mathematics courses to complete the chart below. Use bold face-type to highlight all of the elements found in each. Complete the artifact correlation chart below and submit it as the first page of your assessment:

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>ARTIFACT #</th>
<th>T, A, U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element 1: Candidates know and understand number systems &amp; number sense</td>
<td>1, 4 (e.g.)</td>
<td></td>
</tr>
<tr>
<td>Element 2: Candidates know and understand algebra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element 3: Candidates know and understand geometry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element 4: Candidates know and understand measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element 5: Candidates know and understand probability and statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Element 6: Candidates use major concepts, procedures, and reasoning processes to foster K-6 student learning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Include and complete a one-sentence description of each artifact:
Artifact 1 is a homework assignment on operation of fractions.
Artifact 4 is a test from Math 1021, etc.
Follow this example:
**ELEMENT 1:** “For Element one, I have chosen Artifacts 1, 4 .6.
Artifact 1 addresses this element because in this assignment I did this ...” etc.
**Artifact #1 also addresses the UNO Evidence set** for planning because...” etc.
See the EDCI packet for specific samples.

**Plan ahead!** Not all of these elements will be covered explicitly in this course and you may need to design your assessment lessons, Peer Teach Lessons, field experience hours, etc., to satisfy these requirements.
**Portfolio Instructions**

For consistency, each person should purchase a set of 10-tabbed dividers. Within each section, sequence the papers as described below. Those items NOT chosen for inclusion in the portfolio must be placed at the end of the respective section, not at the end of the binder. Thus, all graded work is organized in the binder. Present your portfolio in a three-ring binder with a cover page that includes your name and the course number. **Please do not** use plastic holders to encase your work. No work in pencil. Use white paper only. Revise the work selected for the portfolio. You will present aspects of your portfolio to the class during the last class.

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**UNO Evidence Sets**

- planning effective instruction
- maintaining an environment conducive to learning
- maximizing time available for learning
- supporting learner behavior to provide productive learning opportunities
- delivering effective instruction
- presenting appropriate content
- providing opportunities for student involvement in the learning process
- demonstrating ability to assess and facilitate student academic growth
- creating partnerships with parents/caregivers and colleagues
- using inquiry and reflection to improve practice
- engaging in advocacy efforts
- planning for professional development
- taking an active role in building-level decision making

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**ACEI Standards**

**Standard 1: Development, Learning, and Motivation**
Candidates know, understand, and use the major concepts, principles, theories, and research related to development of children and young adolescents to construct learning opportunities that support individual students’ development, acquisition of knowledge, and motivation.

**Standard 2: Mathematics**
Candidates know, understand, and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. In so doing, they consistently engage problem solving, reasoning and proof, communication, connections, and representation.

**Mathematics: Detailed Description of ACEI Standard 2:**
Candidates know, understand, and use the major concepts and procedures that define number and operations, algebra, geometry, measurement, and data analysis and probability. In so doing, they consistently engage problem solving, reasoning and proof, communication, connections, and representation.

<table>
<thead>
<tr>
<th>Element 1</th>
<th>Unacceptable</th>
<th>Acceptable</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates know and understand number systems and number sense</td>
<td>Candidates lack number sense and background and proficiency in the major concepts and procedures involving the integers and rational numbers.</td>
<td>Candidates have a sense of number and are proficient in the major concepts and computational procedures involving natural and whole numbers, integers, and rational numbers – particularly fractions, decimals, and percent.</td>
<td>-Candidates demonstrate a number of ways to present number concepts involving whole numbers, negative integers, and rational numbers. -Candidates are computational fluent and have a well-developed sense of number. -Candidates are able to balance and link conceptual understanding and computational proficiency within whole numbers, integers, and rational numbers.</td>
</tr>
<tr>
<td>Element 2</td>
<td>Candidates know and understand algebra</td>
<td>Candidates lack proficiency in their ability to explore and analyze patterns, relations, functions; investigate equality and equations, and recognize and analyze mathematical structures.</td>
<td>Candidates are able to explore and analyze patterns, relations, and functions. Candidates work comfortably with equality, equations, and inequalities. Candidates recognize and analyze mathematical structures.</td>
</tr>
<tr>
<td>Element 3</td>
<td>Candidates know and understand</td>
<td>Candidates lack proficiency in working with two- and three-dimensional shapes, geometric</td>
<td>Candidates model two- and three-dimensional shapes, apply transformations, use symmetry,</td>
</tr>
<tr>
<td>Element 4</td>
<td>Candidates know and understand measurement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Candidates lack proficiency in their ability to select, use, and apply measurement units, techniques, and tools.</td>
<td>Candidates are able to appropriately use measurement units and tools. Candidate use estimation as a way to understand measurement.</td>
<td>Candidates demonstrate focused, coherent use of a variety of measurement units and tools. Candidates apply measurable attributes of objects, and the units, systems, and processes of measurement within mathematics and other content areas.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element 5</th>
<th>Candidates know and understand statistics (data analysis) and probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates lack proficiency in the use of appropriate statistical methods and the application of basic concepts of probability.</td>
<td>Candidates are able to design investigations that can be addressed by creating data sets and collecting, organizing, and displaying data. Candidates understand and apply basic concepts of probability.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element 6</th>
<th>Candidates use major concepts, procedures, and reasoning processes to foster K-6 student learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidates lack proficiency in fostering K-6 student learning</td>
<td>Candidates show positive impact on K-6 student learning by:</td>
</tr>
<tr>
<td>(1) K-6 students' appropriate use of patterns, quantities, and spatial relationships across the five content areas (number systems/number sense, geometry, measurement, algebra, statistics (data analysis) and probability), through the processes of problem solving, reasoning, communication, connection, and representation</td>
<td></td>
</tr>
<tr>
<td>(2) K-6 student use of appropriate problem solving tools, including mental arithmetic, pencil-and-paper computation, a variety of manipulatives and visual materials, calculators, computers, electronic information resources, and other technologies pertinent to mathematics</td>
<td></td>
</tr>
<tr>
<td>(3) Understanding the history of mathematics and the contributions of diverse cultures to that history</td>
<td></td>
</tr>
<tr>
<td>(4) K-6 students communicating about and through mathematics by writing and orally using everyday language and mathematical language</td>
<td></td>
</tr>
<tr>
<td>(5) Analyzing K-6 students' mathematical preconceptions, misconceptions, and error patterns and constructing ways to correct their learning</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Candidates facilitate K-6 students to be focused, coherent, and resourceful in:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) the appropriate use of patterns, quantities, and spatial relationships by consistent in-depth use of problem solving, reasoning, communication, connection, and representation of mathematical ideas</td>
<td></td>
</tr>
<tr>
<td>(2) the use of appropriate problem solving tools, including mental arithmetic, pencil-and-paper computation, a variety of manipulatives and visual materials, calculators, computers, electronic information resources, and other technologies pertinent to mathematics</td>
<td></td>
</tr>
<tr>
<td>(3) Understanding the history of mathematics and the contributions of diverse cultures to that history</td>
<td></td>
</tr>
<tr>
<td>(4) Communicating about and through mathematics by writing and orally using everyday language and mathematical language in real life connections</td>
<td></td>
</tr>
<tr>
<td>(5) Analyzing their own mathematical preconceptions, misconceptions, and error patterns and constructing ways to correct their own learning</td>
<td></td>
</tr>
</tbody>
</table>
Portfolio Organization and Checklist

*The artifacts must be in this order.*

You must have the originals and revisions in order to get credit for the assignment.

Front Pocket of the binder:
- Portfolio Assessment
- Field Experience Hours Documentation

Tab 1: Journals
- Final Journal
- Initial Journal

Tab 2: Reflections
- Class/Reading Reflections

Tab 3: Articles
- Research Journal Analysis
- Internet Lessons Review
- Academic Article (Prezi &) Handout (there should be a link to your Prezi on the handout)

Tab 4: Peer Teachings
- Lesson Plan with Reflection #1
- Lesson Plan with Reflection #2

Tab 5: Assessment Lesson Study Plans
- All 3 lesson plans (Interview, Performance, Observation)
- Your personal reflection of each
- Your evaluation of each student as described above – including use of rubric, percentage, letter grade (where appropriate), and prescription of how to reach “mastery” for the student.
- Students’ work (artifacts)
- Advocacy Analysis

Tab 6: Board work (there should be 6)

Tab 7: Other
- Supplemental Artifacts (e.g., work from math courses that are needed to address each of the elements in the Portfolio Assessment rubric, etc.)

Tab 8: Miscellaneous
- Manipulative Kit Assignment 1-3
- Manipulative Kit Assignment 4-6

Tab 9: 5140 Graduate Project

**Each Lesson Plan should be paper clipped separately from the others.**
**Rubric / Evaluation**

NAME _______________________________ HOME PHONE __________________

<table>
<thead>
<tr>
<th>Assignment/Assessment</th>
<th>Possible Points</th>
<th>Points Earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance/Punctuality/Participation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-3 per tardy; see syllabus for absences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Journal</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Reflections on Readings &amp; Class (3)</td>
<td>5 + 5 + 5</td>
<td></td>
</tr>
<tr>
<td>Academic / Research Journal Analysis</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Academic Article Prezi &amp; Handout</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Internet Lesson Review</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Peer Teaching Lesson #1 w/ Reflection</td>
<td>10 + 5</td>
<td></td>
</tr>
<tr>
<td>Peer Teaching Lesson #2 w/ Reflection</td>
<td>10 + 5</td>
<td></td>
</tr>
<tr>
<td>Board Work</td>
<td>5 pts each</td>
<td></td>
</tr>
<tr>
<td>Final Journal</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Manipulative Kit Evaluations</td>
<td>5 + 5</td>
<td></td>
</tr>
<tr>
<td>Assessment Lessons</td>
<td>10 + 10 + 10</td>
<td></td>
</tr>
<tr>
<td>Portfolio Assessment</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Oral Exam**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance must demonstrate adequate mastery of conceptual understanding of the mathematics uncovered in class. The grade is out of 100.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Scores</td>
<td>201</td>
<td></td>
</tr>
<tr>
<td>Graduate Credit Project</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Total Possible Points for Graduate Credit</td>
<td>251</td>
<td></td>
</tr>
</tbody>
</table>

**You must pass the oral exam in order to pass the course.**

# Tentative Schedule

Please READ all readings BEFORE the class for which they are assigned.

Reys Text = R; Germain-McCarthy Text = G

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Activities</th>
<th>Readings Due</th>
<th>Work Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>8/20</td>
<td>Introduction, Syllabus, Course Expectations, etc.</td>
<td>R: 1, 2 G: 1, 2</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>8/27</td>
<td>Planning NCTM Video</td>
<td>R: 1, 2 G: 1, 2</td>
<td>Initial Journal</td>
</tr>
<tr>
<td>3.</td>
<td>9/3</td>
<td>Assessment Assessment video</td>
<td>R: 3, 4 G: 10</td>
<td>Group A Reflection #1</td>
</tr>
<tr>
<td>4.</td>
<td>9/10</td>
<td>No Class for Fall Break in observance of Dr. Marin Luther King’s Life Use this time to get ahead on readings, assignments, order manipulative kits, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>9/17</td>
<td>Problem Solving Inventing Algorithms Kamii Video</td>
<td>R: 5 G: 11</td>
<td>Group B Internet Lesson Review</td>
</tr>
<tr>
<td>6.</td>
<td>9/24</td>
<td>Number Sense</td>
<td>R: 6, 7 G: 4</td>
<td>Peer Teaching #1 Interview Assessment Group C</td>
</tr>
<tr>
<td>7.</td>
<td>10/1</td>
<td>Whole Number Place Value Algorithms for + and -</td>
<td>R: 8, 9 G: 5</td>
<td>Manipulative Kit 1-3 Reflection #2</td>
</tr>
<tr>
<td>8.</td>
<td>10/8</td>
<td>Whole Number Place Value Algorithms for x, and ÷</td>
<td>R: 10 G: 3, 6</td>
<td>Group A Peer Teaching #2 NCTM Math Article</td>
</tr>
<tr>
<td>9.</td>
<td>10/15</td>
<td>Mid Semester Break – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>10/22</td>
<td>Meaning of Fractions</td>
<td>R: 11, 12 G: 7</td>
<td>Group B Performance Assessment</td>
</tr>
<tr>
<td>11.</td>
<td>10/29</td>
<td>Real-world problems with Fractions Operations with Fractions</td>
<td>R: 13 G: 8</td>
<td>Group C Reflection #3</td>
</tr>
<tr>
<td>12.</td>
<td>11/5</td>
<td>Operations with Fractions, cont.</td>
<td>R:14</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>11/12</td>
<td>Operations with Fractions, cont.</td>
<td>R: 17 G: 9</td>
<td>Observation Assessment Manipulative Kit 4-6</td>
</tr>
<tr>
<td>14.</td>
<td>11/19</td>
<td>Algebraic thinking: Real-world, problems with Decimals Operations with Decimals / Percents, Review for Oral Exam</td>
<td></td>
<td>Reflection #4 Final Journal All other deliverables</td>
</tr>
<tr>
<td>15.</td>
<td>11/26</td>
<td>Thanksgiving Holiday – No Class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>12/3</td>
<td>Special Topics / Readings</td>
<td></td>
<td>All Final Portfolios due</td>
</tr>
<tr>
<td>17.</td>
<td>12/10</td>
<td>Oral Exam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Monday, September 7:** Labor Day – University is Closed

Please check the University Registrar’s Calendar for the following:

- Last day to drop / resign without record
- Last day to drop with a “W”