SYLLABUS

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Course Description: This course provides the fundamental knowledge base for teaching elementary school mathematics. Candidates study the underlying principles of mathematics appropriate for grades k-9. Candidates use Common Core Standards and Principles and Standards for School Mathematics from the National Council of Teachers of Mathematics (NCTM).

Course Rationale and Relationship to the Teacher Education Program: To prepare teachers who can deliver high-quality mathematics education, the Loyola teacher preparation program provides a strong knowledge base, positive attitude, and a wide range of instructional strategies.

Conceptual Framework: The School of Education’s Conceptual Framework—Professionalism in Service of Social Justice—is exemplified within the context of this course. It is the goal of this course to help you become excellent math teachers. Since algebra is the key to higher education, the foundation work that you do in mathematics will assist all students to achieve their highest potential.

STANDARDS

CF1: Candidates demonstrate an understanding of a current body of literature and are able to critically evaluate new practices and research in their field.

CF2: Candidates demonstrate knowledge and skills in a variety of school and professional settings.

CF3: Candidates demonstrate an understanding of issues of social justice and inequity.

CF4: Candidates demonstrate skills that will enable them to work effectively with diverse clients.

CF5: Candidates demonstrate technological knowledge and skills which enhance education.

CF6: Candidates demonstrate professional decision-making skills and behaviors in advancing social justice and service.

CF7: Candidates demonstrate how moral and ethical decisions shape actions directed toward service to others.

CF8: Candidates apply ethical principles in professional decision-making.

IDEA Objectives
1. Learning fundamental principles, generalizations, or theories

2. Learning to apply course material (to improve thinking, problem solving, and decisions)

3. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

4. Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)

5. Gaining a broader understanding and appreciation of intellectual/cultural activity (math.)

➢ Syllabus Addendum Link: http://luc.edu/education/syllabus-addendum/
This link directs students to the following required statements and can be used in place of adding each individual statement to your syllabus. Feel free to insert this link where you would normally reference this content in your syllabus.

   o Academic Honesty

   o Accessibility

   o Conceptual Framework

   o EthicsLine Reporting Hotline

   o Electronic Communication Policies and Guidelines

DIVERSITY

Issues of diversity (socio-economic, ethnic, exceptionalities, and gender) are addressed through instructional methodology, assessment and technology. Teacher candidates study mathematics contributions made by a wide array of mathematicians.

METHOD OF ASSESSMENT
Candidates are expected to put in a minimum of 1.5x class time in additional outside study.

A wide variety of evaluation strategies are used. Math problems, participation, integrative activities, tutoring, exams, teaching small groups of elementary school children, teaching on television (Math Matters) and computer activities contribute to the final grade.

35%: Assignments and Participation

- Candidates are expected to participate in each class. All assignments (except for Jacobs) should be typed. All assignments are due for the next class period. Candidates hand in assignments in a 2-pocket folder.

No late assignments will be accepted.

5% Lesson Plans and Instructional Materials (5 @ 1% each)

- You will prepare and teach five lessons to a small group of children in 4th or 5th grade at Swift School as the service learning component of this class.

Because this course is part of your professional program, the quality of your work is important. The rubric for grading assignments and lesson plans is:

<table>
<thead>
<tr>
<th>Standard</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would show this to my principal.</td>
<td>1.0</td>
</tr>
<tr>
<td>I would show this to my colleagues.</td>
<td>0.9</td>
</tr>
<tr>
<td>I would show this to my students.</td>
<td>0.8</td>
</tr>
<tr>
<td>This is just for me.</td>
<td>0.7</td>
</tr>
<tr>
<td>I was not able to complete the whole assignment.</td>
<td>0.6-0.1</td>
</tr>
<tr>
<td>No assignment.</td>
<td>0</td>
</tr>
</tbody>
</table>

30% Quiz 6 @ 5%

25% Final Exam

5%: NCTM Standards Notebook

- All assignments and class activities will be organized into a binder using the NCTM Standards and turned in at the final exam.

NCTM Standards Notebook Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Neatness</td>
<td>1</td>
</tr>
<tr>
<td>5 NCTM tabs</td>
<td>1</td>
</tr>
</tbody>
</table>
Interesting cover 1
100% % of assignments 2

Extra Credit: Candidates will be able to earn up to 5% extra credit for the course through opportunities that will become available during the semester.

- Some of the opportunities include volunteering at schools; attending workshops/lectures on campus; teaching on Math Matters, my cable television show, etc.

Grade Assignments:

A  95-100%
A- 93-94%
B+  91-92%
B  87-90%
B-  85-86%
C+  83-84%
C  80-82%
C-  78-79%
D  77-70%
F  0-69%

Livetext Dispositions

Professionalism

- Participates in all classes
- Prepares high quality instructional materials
- Arrives at clinical site ready to teach
All students can learn

- Identifies adaptations for students by name in lesson plan

Fairness

- Gives all students an equal chance to participate in lesson

**Textbooks  (*required for in class work*)**

*Mathematics: a Human Endeavor: a Book for Those Who Think They Don't Like the Subject*, Harold Jacobs, 3rd Edition 0-1767-2426-x


*It’s in the Cards! Math Card Games*, Diane Schiller


*The Man Who Counted* by Malba Tahan

*More Stories to Solve: Fifteen Folktales from Around the World* by [George Shannon (Author), Peter Sis (Illustrator)]

**Course Outline**

<table>
<thead>
<tr>
<th>Week</th>
<th>Content</th>
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</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Amazing Math, Magic Tricks with Math, the Importance of Observation</td>
</tr>
<tr>
<td>3-4</td>
<td>Algebra: Patterns, Variables</td>
</tr>
<tr>
<td>5-6</td>
<td>Measurement</td>
</tr>
<tr>
<td>7-8</td>
<td>Geometry</td>
</tr>
<tr>
<td>9-10</td>
<td>Data analysis and Probability</td>
</tr>
<tr>
<td>11-12</td>
<td>Problem Solving</td>
</tr>
</tbody>
</table>

**Academic Honesty**
Academic honesty is an expression of interpersonal justice, responsibility and care, applicable to Loyola University faculty, students, and staff, which demands that the pursuit of knowledge in the university community be carried out with sincerity and integrity. Academic dishonesty is one of several possible reasons why a student may be dismissed from the Graduate School of Education. For specific policies and procedures see: http://www.luc.edu/education/academics_policies.shtml#honesty

**Accessibility**

Students who have disabilities which they believe entitle them to accommodations under the Americans with Disabilities Act should register with the Services for Students with Disabilities (SSWD) office. To request accommodations, students must schedule an appointment with an SSWD coordinator. Students should contact SSWD at least four weeks before their first semester or term at Loyola. Returning students should schedule an appointment within the first two weeks of the semester or term. More information is available at: http://www.luc.edu/sswd/register.shtml

**Harassment**

It is unacceptable and a violation of university policy to harass, discriminate against or abuse any person because of his or her race, color, national origin, gender, sexual orientation, disability, religion, age or any other characteristic protected by applicable law. Such behavior threatens to destroy the environment of tolerance and mutual respect that must prevail for this university to fulfill its educational and health care mission. For this reason, every incident of harassment, discrimination or abuse undermines the aspirations and attacks the ideals of our community. For specific definitions of discrimination, abuse, and harassment refer p. 25-26 in the Loyola University Chicago Student Handbook, located at: http://www.luc.edu/studentaffairs/pdfs/LoyolaStudentHandbook2006.pdf

If you believe you are subject to such harassment, you should notify your instructor. If you believe you are subject to harassment by your instructor, contact the Associate Dean of Academic Affairs at 312-915-6464.