LSC Use Only No:	LSC Action-Date:	UWUCC USE Only No.	UWUCC Action-Date:	Senate Action Date:
		07-36	AP-2/5/08	App-2/26/08

Curriculum Proposal Cover Sheet - University-Wide Undergraduate Curriculum Committee

Contact Person	Email Address
Larry Feldman	lmfeldmn@iup.edu
Proposing Department/Unit	**Phone**
Mathematics	724-357-4767

Check all appropriate lines and complete information as requested. Use a separate cover sheet for each course proposal and for each program proposal.

1. Course Proposals (check all that apply) __X__Amnesty

_____New Course _____Course Prefix Change _____Course Deletion

__X__Course Revision _____Course Number and/or Title Change __X__Catalog Description Change

ELED 313 Teaching Mathematics in the Elementary School	
***Current* Course prefix, number and full title**	***Proposed* course prefix, number and full title, if changing**

2. Additional Course Designations: check if appropriate

_____ This course is also proposed as a Liberal Studies Course. _____ Other: (e.g., Women's Studies, Pan-African)

_____ This course is also proposed as an Honors College Course.

3. Program Proposals _____Catalog Description Change _____Program Revision

_____New Degree Program _____Program Title Change _____Other

_____New Minor Program _____New Track

***Current* program name**	***Proposed* program name, if changing**

4. Approvals		**Date**
Department Curriculum Committee Chair(s)	L. Feldman LARRY FELDMAN	1/24/2008
Department Chair(s)	Francisco Alarcón	1/24/08
College Curriculum Committee Chair		
College Dean	Mary Ann Rafoth	1/28/08
Director of Liberal Studies *		
Director of Honors College *		
Provost *		
Additional signatures as appropriate: (include title)	Joseph Domaracki TECC Chairperson	1-28-08
UWUCC Co-Chairs	Gail S Sechrist	2-8-08

* where applicable

Received FEB 08 2008 Liberal Studies

Received FEB 01 2008 Liberal Studies

Catalog Description Changes

ELED 313 – Catalog Description and Prerequisite Changes & Syllabus of Record Amnesty

Description of Curriculum Change

Current – ELED 313 Teaching Mathematics in the Elementary School 3c-0l-3cr

Prerequisites: MATH 151, MATH 152, ELED 257.

Recent developments in curriculum and methods of instruction of contemporary elementary school mathematics programs. Students become acquainted with books, materials, and other resources helpful to prospective teachers. Includes observations of master teachers.

Proposed – ELED 313 Teaching Mathematics in the Elementary School 3c-0l-3cr

Prerequisites: MATH 151, 152, and one of ELED 257, ECED 280, EDEX 222 or 231

Examines contemporary curriculum and methods of instruction used in elementary school mathematics. Students become acquainted with books, materials, and other resources helpful to prospective teachers. Course activities include experiences in teaching elementary school mathematics.

List of Proposed Changes

1. Add to list of prerequisites. The pedagogy requirement has alternatives.

   Rationale: Two majors have added ELED 313 to their program requirements (Early Childhood Education/PreK-Grade 6 has changed its program requirement from MATH 320 to ELED 313; Education of Exceptional Persons has changed its program requirement from EDEX 221 to ELED 313). The change is necessary to acknowledge different pedagogy courses in these two majors (Early Chilhood/PreK-Grade 6 uses ECED 280 [Maximizing Learning] and Education of Exception Persons uses either EDEX 222 [Meth Tchg Rdng to Pers w/Dis)]or EDEX 231 [Tchg Cont Area Subj Pers w/Dis]). Either of these courses is a satisfactory alternative to ELED 257 (Pedagogy I).

2. In catalog description, replaced observation of master teachers with teaching experience.

   Rationale: The primary change is to replace observations with a teaching experience. Observations were a part of the course when the University School existed and were easily allowed. A teaching experience is authentic and a richer experience for students. Minor changes in wording make the description clearer.

Letters of Support (attached)

1. Professional Studies in Education Department – Dr. Jennifer Rotigel (Page 3)
2. Special Education and Clinical Services Department – Dr. Joseph Domaracki (Page 4)

Supporting letter from Dr. Jennifer Rotigel follows:

Indiana University of Pennsylvania

Department of Professional Studies
in Education
Davis Hall, Room 303
570 S. Eleventh Street
Indiana, Pennsylvania 15705-1050

724-357-2400
Fax: 724-357-2961
Internet: *http://www.iup.edu/pse*

October 25, 2007

To Whom it May Concern:

Dr. John Baker from the IUP Mathematics Department has requested this letter of support for the changes he proposes to the ELED 313 syllabus. The changes are to be processed under the amnesty program.

I have reviewed the proposed changes and fully support them. The changes to the syllabus will: provide substitutes for the general methods prerequisites for the Early Childhood Program and change an objective from observing master teachers to teaching a math lesson in a field experience.

Please contact me if further clarification is needed.

Sincerely,

Jennifer V. Rotigel

Jennifer V. Rotigel, Ed.D.
Professor and Chair

Supporting email from Dr. Joseph Domaracki follows:

----- Original Message -----
From: "Joseph W. Domaracki ,Ph.D." <jwdomara@iup.edu>
To: "John Baker" <jdbaker@iup.edu>
Sent: Thursday, October 25, 2007 3:01 PM
Subject: Re: Request Letter of Support

> John,
> I am writing in support of the proposed changes the Math Department
> is making to ELED 313. Changing the prerequisites to include EDEX 222 or
> EDEX 231 is a positive change that will make ELED 313 more accessible to
> our Special Education majors. In fact, it is a necessary change given
> that the Pennsylvania Department of Education (PDE) is moving
> increasingly closer to dual certification standards.
>
> Joe Domaracki
>
> John Baker wrote:
>> I would like to get a letter of support for changes to the ELED 313
>> syllabus.
>>
>> I plan to submit the syllabus under the amnesty program with two
>> changes: (1) Provide substitutes for the general methods
>> prerequisite from the special education or early childhood programs
>> and (2) Change an objective from observing master teachers (an
>> artifact from when student could observe in the University School) to
>> teaching a math lesson (a field experience is provided for most of our
>> students).
>>
>

I. CATALOG DESCRIPTION

ELED 313 Teaching Mathematics in the Elementary School 3c-0l-3cr

Prerequisites: MATH 151, 152, and one of ELED 257, ECED 280, EDEX 222 or 231

Examines contemporary curriculum and methods of instruction used in elementary school mathematics. Students become acquainted with books, materials, and other resources helpful to prospective teachers. Course activities include experiences in teaching elementary school mathematics.

II. COURSE OUTCOMES

RELATIONSHIP OF COURSE TO COLLEGE CONCEPTUAL FRAMEWORK:
The College of Education has developed a teacher education program based upon a pre-service teacher who is competent in content and pedagogy. ELED 313 is a methods course which utilizes the student's knowledge of the mathematics content of the elementary grades as a vehicle to develop a pedagogical framework for learning to teach mathematics. In the course, students use a variety of materials for teaching, observe exemplary teachers, plan lessons, work with elementary children, and make journal entries. These activities help pre-service teachers become reflective practitioners who are capable of inquiry into a variety of methods of teaching mathematics while learning to collaborate and interact with their peers and with experienced teachers.

The student will:

1. examine the role of high expectations and strong support for ALL students (National Council of Teachers of Mathematics [NCTM], Equity Principle for School Mathematics) including multicultural and individual differences.
2. investigate and reflect upon the importance of a coherent, focused, and well-articulated mathematics curriculum (NCTM Curriculum Principle for School Mathematics) including the sequencing of topics.
3. investigate learning theories, and learn and practice the methods of teaching mathematics that provide knowledge of what children understand and need to learn, and how to challenge and support them in their mathematical development (NCTM Teaching Principle for School Mathematics) including (a) concrete and visual to abstract instructional approaches and (b) the design and implementation an elementary mathematics lesson suitable for the school classroom.
4. examine the ways in which children learn and develop their mathematics ability (NCTM Learning Principle for School Mathematics) such as (a) the importance of positive attitudes in teaching and learning, (b) the integration of problem-solving and real-world applications into the teaching of mathematics, (c) the role of communicating mathematical ideas in learning to clarify, refine and consolidate one's knowledge, and (d) the advantages to connecting mathematics to the outside world.
5. explore the role of assessment in learning important mathematics (NCTM Assessment Principle for School Mathematics) such as issues, options, and tools.
6. investigate the essential role that technology plays in a student's mathematical learning (NCTM Technology Principle for School Mathematics) including an examination of the appropriate uses of calculators and computers to develop number awareness and mathematical concepts, as well as to solve problems.

7. illustrate awareness of current trends related to the teaching of mathematics in the elementary school.

Course Objective	College Conceptual Framework / Danielson	INTASC Standard /Principle	NCATE / ACEI Elementary Education Program Standard	Course Assessment Measuring Objective
1	1, 2	3	2.3 Mathematics, 4.0 Assessment for Instruction	Tests, Projects, and Quizzes; Varies by Instructor
2	1	1, 4	2.3 Mathematics	Tests, Projects, and Quizzes; Varies by Instructor
3	1, 2, 3, 4	2, 6, 7, 9	2.3 Mathematics, 3.1 - 3.5 Instruction	**Key Assessment:** Practice Teaching Project
4	1, 2, 3, 4	2, 4 – 7, 9	2.3 Mathematics, 3.1 - 3.5 Instruction	**Key Assessment:** Practice Teaching Project
5	1	8	4.0 Assessment for Instruction	Tests, Projects, and Quizzes; Varies by Instructor
6	1, 2	4, 6	2.3 Mathematics	Tests, Projects, and Quizzes; Varies by Instructor
7	1	2 – 5	2.3 Mathematics, 4.0 Assessment for Instruction	Tests, Projects, and Quizzes; Varies by Instructor

III. COURSE OUTLINE / TIME SCHEDULE

A. Development of Pedagogy (3 weeks)

1. Helping all children construct mathematical concepts (*Objective #1*). 1 hr.
2. Assessment in the classroom (*Objective #5*). 3 hrs.
3. Instruction via problem solving (*Objective #4b*). 3 hrs.
4. The role of affect and culture in learning mathematics (*Objective #1*). 0.5 hrs.
5. General techniques for children with special needs (*Objective #1*). 1 hr.
6. Current trends in teaching mathematics (*Objective #7*). 0.5 hrs.
7. Technology in the elementary school classroom is an important topic where explorations and demonstrations are integrated into content areas when appropriate. It is expected that the students will be exposed to about one hour of accumulated instruction time as part of the credit hours given in this Course Outline. (*Objective #6*).

B. The Teaching of Number Concepts (6 weeks) (*Objectives #2, #3, #4*)

1. The development of number concepts and relations. 2 hrs.
2. Developing meanings for the operations. 2 hrs.
3. Helping children master the basic facts. 2 hrs.
4. Whole number place value development 2 hrs.
5. Pencil-and-paper computation with whole numbers. 2 hrs.
6. Mental computation and estimation. 1 hr.
7. Development of fraction concepts. 3 hrs.
8. Computation with fractions. 1 hr.
9. Decimal and Percent concepts and computations. 2 hrs.
10. Developing the concepts of ratio and proportion. 1 hr.

C. The Teaching of Non-Number Concepts (4 weeks) *(Objectives #2, #3, #4)*

1. Developing measurement concepts. 2 hrs.
2. Geometric thinking and geometric concepts. 3 hrs.
3. Logical Reasoning: Attribute and pattern. 3 hrs.
4. Exploring the concepts of probability and statistics. 2 hrs.
5. Preparing for algebra. 1 hr.
6. Functions and variables. 1 hr.

D. Teaching a Mathematics Lesson (1 week) *(Objective #3)*

1. Planning for developmental instruction. 1 hr.
2. Examining teacher resources and classroom textbooks. 1 hr.
3. Teaching a mathematics lesson. 1 hr.

Final exam 2 hrs.

IV. EVALUATION METHODS

Criteria used in assessing the competency of the student will vary depending upon the instructor. More specifically, the following guidelines are recommended:

40% Assessments. Tests (midterms and final). Tests provide a summative assessment of topics covered. Performance assessments consist of group and individual tasks that closely resemble those of practicing teachers. Performance assessments may be used as formative as well as summative evaluations.

20% Participation and Quizzes. Participation includes attendance, homework, and in-class activities. Quizzes over recently covered material provides a formative assessment of class members' understandings.

40% Projects. Group and individual projects show students' understandings and application of course topics. Projects include but are not limited to: in-class activities and presentations, course topic reflections and writing assignments, creating manipulatives for classroom use, reviews of elementary school journals and textbooks, a portfolio of student's work, and field experiences such as school classroom observations, student interviews, and practice teaching.

The Practice Teaching Project, the key assessment, comprises 20% of the course grade and shall be required of all instructors of ELED 313, and should be part of a field experience. The project's intent is to have students develop and teach a model math lesson to elementary school children.

All other projects will combine to comprise 20% of the course grade.

V. EXAMPLE GRADING SCALE

90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
0 - 59	F

VI. UNDERGRADUATE-COURSE ATTENDANCE POLICY

The course attendance policy is consistent with the University policy.

VII. REQUIRED TEXT

Van De Walle, J. (2007). Elementary and middle school mathematics: Teaching developmentally, 6th Edition. New York: Pearson – Allyn and Bacon.

VIII. SPECIAL RESOURCE REQUIREMENTS

None.

IX. BIBLIOGRAPHY

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Musser, G. L., Burger W. F., & Peterson, B. E. (2003). Mathematics for elementary teachers, a contemporary approach, Fourth Edition. New Jersey: Prentice-Hall.
National Council of Teachers of Mathematics. Changing the faces of mathematics: Perspectives on latinos. Reston, Virginia.
National Council of Teachers of Mathematics. Teaching Children Mathematics. Reston, Virginia. (Formerly known as the Arithmetic Teacher)
National Council of Teachers of Mathematics. Yearbooks. Reston, Virginia
National Council of Teachers of Mathematics. Mathematics Teaching in the Middle School. Reston, Virginia
National Council of Teachers of Mathematics. Curriculum and Evaluation Standards for School Mathematics, Addenda Series. Reston, Virginia
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O'Daffer, P., Charles, R., Cooney, T., Dossey, J., Schielack, J. (1998). Mathematics for Elementary School Teachers. Menlo Park, CA: Addison-Wesley.
Smith, N., Lambdin, D., Lindquist, M., & Reys, R. (2001). Teaching elementary mathematics: A resource for field experiences. NY: John Wiley & Sons.