California State University, San Marcos

FORM X (WHITE)

- Authorization To Offer Non-Degree Extension Credit Course Through Extended Studies -

1. Desired Term: Fall 2007
   Year of implementation: 2007

2a. Course abbreviation and Number: EDUC E1070
   2b. Abbreviated Title: (No more than 25 characters, including spaces)
       Algebra for Teachers

4. Number of Units: 1
5. Billing Units: 1 ($80)

6. Allowed Student Levels: UG X GR X EE X (Default is to check all three levels)

7. Grading Method:
   _N_ Normal (N) (Default is Letter Grade A-. Students may request Credit/No Credit)
   _N_ Normal Plus Report-in-Progress (NP) (As for Normal; also allows Report-in-Progress)
   _C_ Credit/No Credit Only (C)
   _C_ Credit/No Credit or Report-in-Progress Only (CP)

8. Mode of Instruction:
   (See pages 17-23 at http://www.calstate.edu/cim/data-elem-
dic/APDB-Transaction-DED-SectionV.pdf for definitions of
the Course Classification Numbers)

<table>
<thead>
<tr>
<th>Type of Instruction</th>
<th>Number of Credit Units</th>
<th>Instructional Mode (Course Classification Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>1</td>
<td>C-02</td>
</tr>
<tr>
<td>Activity</td>
<td></td>
<td></td>
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<tr>
<td>Lab</td>
<td></td>
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</tbody>
</table>

9. Attributes: Course Requires Consent for Enrollment? _Yes_ X _No_
   Faculty Credential Analyst Dean Program/Department - Director/Chair

   Prerequisites: __________________________
   Co-requisites: __________________________

10. Does this course impact other discipline(s)? (If there is any uncertainty as to whether a particular discipline is affected, check "yes" and obtain signature.) _Yes_ X _No_
    (If yes, obtain signature(s). Any objections should be stated in writing and attached to this form.

   Mathematics (see 2002) [Signature] [Date]  [Support] Oppose
   [Signature] [Date]  [Support] Oppose

Important: Please Complete

1. Instructor: Tina Shinato
2. Extension Course Proposal Form attached
   http://www.csusm.edu/academic_programs/Curriculum_Formal/index.html

SIGNATURES: (COLLEGE LEVEL)

1. Program Director/Chair __________________________ Date __________________________

2. College Dean (or Designee) __________________________ Date __________________________

SIGNATURES: (UNIVERSITY LEVEL)

3. Dean of Extended Studies (or Designee) __________________________ Date 9/29/07

4. Vice President for Academic Affairs (or Designee) __________________________ Date 9/11/07
Course Title: 
Algebra for Teachers

Course Description: (Please provide a short paragraph describing the purpose, topics and audience for your course. Be sure to include the benefits for students who take your course. An edited version of this description will be used for promotional copy.)
The purpose of the course is to provide mathematical content along with techniques in teaching a thematic unit. The topics covered will include linear equations, linear inequalities, quadratic equations, and how to connect concepts to a unit problem. This course is appropriate for current math teachers who have taught through 7th grade math but have not studied Algebra since they earned their degree. At the end of the course students will have revisited Algebra 1 and have a greater understanding of what topics their students will be taking in the future. In addition, the topics will be explored using a unit problem as the foundation. This approach can be transferred to their current classes.

Course Objectives: (Provide specific student learning outcomes and how they will be achieved.)
1) Algebraic content knowledge
   Students will gain mathematical content knowledge through lecture, explorations and various problem situations.
2) Teaching a thematic unit in math
   Students will create a thematic unit for their current class. Using their experience in the class they will learn how to develop and facilitate activities that support an overarching question. This will be modeled by the instructor using the Overtime Dilemma and the Island Problem as the example.

Evaluation: (What will be the basis for grades? How will you know that the students have achieved the course objectives?)
1) Participation in discussions
2) Tests
3) Project (create a thematic unit for topics in a math class)

Course Length: (How many actual contact hours in class? Note: Credit courses must contain a minimum of fifteen 50-minute contact hours for each semester unit of credit, and outside of class work by students is required. Non-credit has no such parameters)
Thirteen 1 hour classes totaling 780 minutes (30 minutes beyond the requirement)

Proposed Date(s): September 4 – December 11, 2007

Location: (Indicate if you are proposing this course to be scheduled and offered in our facilities, or if this course is to be held at an off-campus location, such as a school, district or county office, company, etc.)
The course will be held at Rancho Minerva Middle School in the Vista Unified School District.

Support Needs: None

Comments: (Please add any other relevant information, such as whether or not the course has been taught elsewhere successfully, why the course is needed in our area, marketing suggestions, etc.)
This course was created at the request of several teachers who were looking for a math content course. After attending an existing math course they were disappointed and wanted an approach that provided content as well as pedagogy.

When completed, please return this form, along with an up-to-date resume (with teaching references) to: Catherine Boyle Asker, Office of Extended Studies, Cal State San Marcos, 333 S. Twin Oaks Valley Rd., San Marcos, CA 92096; FAX: (760)750-3138; E-mail: cboyle@csusm.edu
Topics in Algebra for Teachers

I. Linear functions

Day 1
1) Tables, Equations and Graphs (graphing calculator instruction)
2) Family of functions

Day 2
3) Standard form, point slope form and y-intercept form
4) Short cuts to graphing

Day 3
5) Graphing inequalities in 1 and 2 dimensions

Day 4
6) Systems of equations
7) Solving by graphing

Day 5
8) Solving systems by substitutions and elimination

Day 6 and 7
9) The island problem (an application of days 1-5)

Day 8
10) Linear inequalities

Day 9 and 10
11) Linear programming (systems of linear inequalities)

II. Quadratic functions (this unit will be explored through an activity involving finding the height of a spring launched into the air).

1) Family of functions
2) General equations
3) Finding the x-intercepts and y-intercepts
4) The need for the quadratic formula
5) Deriving the quadratic formula (completing the square)
6) The vertex (explanation of how we get the line of symmetry)
7) Solve the spring problem

III. Misc.

1) Rational expression (where does add/sub/mult/div fractions lead in an algebraic setting)
2) Probability (expected value and how Vegas makes money)
3) Statistics (questioning general conclusions and why percentages are not enough)
Tina Shinsato

Education:
- 2002 - 2005 Masters of Science in Mathematics
  California State University San Marcos
- 1993 - 1994 California Teaching Credential
  University of California at San Diego
- 1989 - 1993 Bachelor of Arts in Mathematics (Applied)
  Minor in Physical Education
  University of California at San Diego

Credentials Held:
- Administrative (Tier 1)
- Secondary Mathematics (Clear)
- Physical Education (Supplementary)

Teaching Experience:
- Rancho Minerva Middle School
  2006 - current Vista Unified School District Vista, CA
  - Math TOSA: Support teachers in mathematics curriculum
devolution, facilitate collaborations, and model lessons.
  - Coordinate the move away from a two year algebra program into a one
year program. Implement the support for its success.
  - Before school and after school academic recovery program
  coordinator.
  - Implementation of a department wide team teaching model.

California State University at San Marcos
- 2005 - 2007 San Marcos, CA
  - Mathematical Methods Instructor for Single Subject Secondary
pre-service teachers.

Vista High School
- 1995 - 2006 Vista Unified School District Vista, CA
  - Instructed Math B, Consumer Math, Algebra 1 and 2, Geometry,
  Essential math, IMP 1.2, and 3, IB Math Studies, and IB Math Analysis,
  and Calculus AB.
  - Proficient teaching with a TI - 83 and 89 graphing calculator
  - IMP training through Year 4

West Hills High School
  - Instructor of CPM 1, Geometry and Pre-Algebra

School:
- 2006 - current Math Teacher on Special Assignment
- 2005 - current BTSA support provider
- 2005 - 2006 Academic Council Chair (Vista High)
- 1999 - 2006 Math Department Chair (Vista High)
- 2004 - 2004 AP/IB Honors Coordinator (Vista High)
- 1996 - 1999 Class of 1999 advisor (Vista High)
- 1993 - 2001 Freshmen Basketball Coach (Vista High)
<table>
<thead>
<tr>
<th>District Involvement:</th>
<th>Developed and train teachers for the Post Eighth Math Curriculum for Vista Unified School District</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002–2006</td>
<td>K-12 Math Articulation Co-Chair</td>
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<tr>
<td>2002–2006</td>
<td>Facilitator of district Algebra exams/Benchmark exams</td>
</tr>
<tr>
<td>2000–2002</td>
<td>Math Committee Co-Chair, aligned the curriculum at both high schools in the district</td>
</tr>
<tr>
<td>2001</td>
<td>Co-developer of the High School Exit Exam course curriculum for Vista Unified</td>
</tr>
<tr>
<td>2001</td>
<td>Coordinated the development of Algebra Guidelines</td>
</tr>
<tr>
<td>2005</td>
<td>Outstanding teacher recognition from UCSD</td>
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<tr>
<td>2003</td>
<td>Golden Apple recipient</td>
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<tr>
<td>2003</td>
<td>Liahona Award</td>
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<tr>
<td>1998–2000</td>
<td>100% student pass rate on IB Math Study Exam,</td>
</tr>
<tr>
<td>2006</td>
<td>AT&amp;T Partnership Grant with Gear UP; Facilitated instruction for a one week mathematics summer institute.</td>
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<tr>
<td>Grants:</td>
<td></td>
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<tr>
<td>2000</td>
<td>Awarded the UCOP Grant; Project Director of the Algebra Institute in conjunction with Cal State San Marcos (Linda Holt)</td>
</tr>
<tr>
<td>2007–current</td>
<td>Math Content Specialist at SIATech for their online CAHSEE math prep course. Assist in design of delivery system for math instruction and assessment.</td>
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<td>Educational Community:</td>
<td></td>
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<tr>
<td>2006</td>
<td>Contributing writer for the Getting Ready for Algebra Online</td>
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<td>2006</td>
<td>Committee member on the CDE Literacy on Science and Mathematics Committee</td>
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<td>2005</td>
<td>Panel member at the CSBA Annual Education Conference:</td>
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<td></td>
<td>Closing the Achievement Gap.</td>
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<tr>
<td>2005</td>
<td>Reviewer for the CSU Math Success website</td>
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<td><a href="http://www.csunmathsuccess.org/mshome">http://www.csunmathsuccess.org/mshome</a></td>
</tr>
<tr>
<td>2005</td>
<td>Developed SAT prep modules for BoarderLink project at the San Diego Office of Ed</td>
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<td></td>
<td><a href="http://www.sdoces.net/sat.asp">http://www.sdoces.net/sat.asp</a></td>
</tr>
<tr>
<td>2004</td>
<td>Lead curriculum writer for the CAHSEE Test Prep Modules for San Diego Office of Ed</td>
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<td></td>
<td><a href="http://www.sdoces.net/ret2/math/?loc=pubs">http://www.sdoces.net/ret2/math/?loc=pubs</a></td>
</tr>
<tr>
<td>2003, 2005</td>
<td>Instructor for AVID Summer Bridge SAT math prep</td>
</tr>
<tr>
<td>2000–2002</td>
<td>Calculator presenter for San Diego Office of Ed</td>
</tr>
</tbody>
</table>

**Publications**

University of Oregon's Volume 18, 2 2005
INTERNATIONAL INSTITUTE FOR SPORT AND HUMAN PERFORMANCE AND KINESIOLOGY PUBLICATIONS [http://kinpubs.uoregon.edu/KinAbs18-2.pdf](http://kinpubs.uoregon.edu/KinAbs18-2.pdf)

**References:**

Steven Riehle, Principal
Rancho Minerva Middle School
2245 Foothill Dr
Vista CA 92084
760-631-4500

Cathy Williams, Secondary Math Specialist
San Diego County Office of Education
6401 Linda Vista Road
San Diego, CA 92111
858-292-3500

Brenda Hall, AVID Coordinator
San Diego County Office of Education
6401 Linda Vista Road
San Diego, CA 92111
858-292-3559
Hi Virginia,
Yes, no problem.
Linda

On 8/31/07 3:51 PM, "Virginia Mann" <vmann@csusm.edu> wrote:

Hi Linda,

Welcome back to fall semester!
Extended Studies would like to offer the attached course "Algebra for Teachers".
Please let us know if you support this course.

Thank you.
Virginia

Virginia Peters Mann
Curriculum Specialist
Academic Programs
CSU San Marcos
Tel: (760) 750-8887