Eastern Kentucky University
Department of Curriculum and Instruction
EMG 491: Mathematics in the Middle Grades, CRN XXXXX
Credit Hours: 3
Fall 2015

Professor:
Office:
Mailbox:
Office phone:
E-mail:
Office Hours:

Catalog Course Description:

Prerequisites: EDF 319 or 319W, EDF 413, EMS 490 and admission to professional education and mathematics emphasis. Corequisite: CED 450. Appropriate materials and methods for teaching mathematics in the middle grades.

Texts and Course Materials:

- John Van de Walle. *Elementary and Middle School Mathematics: Teaching Developmentally, **8th Edition***. Allyn & Bacon, Pearson.

- Kentucky Academic Standards for Mathematics-Middle Grades

Student Learning Outcome (To be submitted to Taskstream):

1. Develop a middle grades mathematics unit plan; implement instruction in the classroom; and self-assess student learning and professional growth.
    a. Kentucky Academic Standards for Mathematics 1, 3, 4, 5, 6, 7, 8
    b. CAEP 1, 4
    c. Kentucky Teacher Standard 1, 2, 3, 4, 5, 7, 9
    d. InTASC Model Core Teaching Standards (2015) –1, 2, 4, 5, 6, 7, 8, 9
    e. KY PGES 1a, 1b, 1c, 1e, 1f, 2c, 3a, 3b, 3c, 3d, 4a
    f. USA- ISTE NETS and Performance Indicators for Teachers (NETS-T) (2009) – II, III, V
    g. Association for Middle Level Education Standards 1, 2, 4

Supplemental Learning Outcomes:
Students will…

1. Demonstrate the use of knowledge and understanding of the real number system and intuitive geometry in the middle grades mathematics program.
2. Apply their knowledge and understanding of the history and development of mathematics to provide middle grade math lessons with a broad cultural foundation for a meaningful mathematics program.
3. Select content in mathematics for middle grades consistent with the principles of human growth and development and research in the psychology of learning.
4. Apply their knowledge of understanding of all areas of the curriculum to integrate and correlate these areas with mathematics.
5. Examine and contrast past and present methods and techniques used in teaching mathematics in accordance with existing research.
6. Incorporate instructional strategies appropriate to middle grade students including the use of concrete and manipulative materials, games and kits, calculators, and technology in providing learning experiences in mathematics for a variety of learning styles.
7. Develop and implement a variety of cooperative techniques for the purpose of evaluating individual and group performance in the mathematics program.
8. Engage in ongoing analysis and assessment of teaching and learning through self reflection and evaluation by collaboration with peers, assessing mathematical articles, and attending seminars or professional organizations.

9 Demonstrate knowledge of the Kentucky Academic Standards for Mathematics and the importance and relevance of each in the teaching, learning and assessment of mathematics

Course Activities. Students will…

1. Prepare a report/presentation on a topic from the NCTM Standards, NCTM Mathematical Practices, and the Kentucky Academic Standards for Mathematics.
2. Evaluate curriculum materials for middle grades in mathematics.
3. Examine teaching techniques and instructional strategies used in mathematics.
4. Develop a collection of appropriate problems for middle grades mathematics
5. Demonstrate technology and other media use including incorporation of literature.
6. Collect and design appropriate assessment items.
7. Prepare a unit of study using KTIP lesson plans.
8. Maintain a math journal.
9. Read, discuss, and answer questions from the text, as well as other assignments.
10. Give and participate in oral and written presentations and assessments.
11. Participate in various learning activities both in and outside the classroom
12. Present a video-taped teaching episode.

Evaluation Methods:

Evaluation Criteria	
KA7_Methods_PlanningandReflectiveEducatorProject	30%

The Planning and Reflective Educator Proejct must be posted in Taskstream and completed successfully with a holistic score of 3.0 and grade of C or higher to earn a grade of C or higher in the class and proceed to student teaching.	
Midterm/Final Evaluations	20%
In-class and online tasks/assignments	40%
Professional behaviors / dispositions (e.g., attendance, punctuality, on-task behaviors, class preparedness, etc.)	10 %
Professional Development experiences – two **<u>required</u>** (your special methods instructor will provide ideas and MUST APPROVE your two experiences)	

Evaluation Type and Means of Appropriate Evaluations			
Evaluation	***Assessment for Learning***	***Assessment of Learning***	***Student Learner Outcomes***
Midterm	Textbook/class discussions	Written assessment over textbook/class discussions.	1, 2, 3, 5, 7, 12
Final	Critique of video/live lesson	Class teaching presentation	1,2,3,4,6,7,8,12
Videotaped Teaching Episode	Performance, self-reflection	KTIP lesson plans valuated by scoring guide	1,2,3,4,5,6,8,9,10,12
Field Work Forms	Journal Entries for each observation	Signature of mentor teacher on documentation log	7,9,10,11
Content specific assignments, including but not limited to: *Program Review* *Technology* *Math Strands* *Planning/Reflective Educator Project*	Discussion questions, research, presentations, written explanations	Assignments will be graded with rubrics	1,2,3,4,5,6,7,8,9,10,11,12

Student Progress:

Student progress will be communicated through feedback on assignments and posted grades in Blackboard/Taskstream. A cumulative progress report will provided at the mid-point of the semester.

Attendance Policy:

Absences equaling 20% of class meetings will result in automatic failure. Class sessions missed as a result of late entry will be counted as absences. The student is responsible for presenting adequate reason for absence to the instructor in order to be given opportunity to make up missed assignments. Adequate reasons include personal illness, death or serious illness in the immediate family or participation in an approved university activity.

Late submission of Student Work:

The only exception to this policy will be if the student provides an adequate and documented excuse as outlined in the EKU Attendance Policy. - - - *"If a student presents the instructor with an adequate and documented reason for an absence, the instructor normally will give the student an opportunity to make up the work missed, if this is feasible. Adequate reasons involve circumstances beyond the student's control, such as personal illness, critical illness, or death in the immediate family, or participation in an approved University activity. No absence of any nature will be construed as relieving the student from responsibility for the timely completion of all work assigned by the instructor. Initiating the request to make up class work is the student's responsibility" – EKU Student Handbook*

Incomplete grades will adhere to the University policy for incompletes. Only students who have experienced a legitimate extenuating circumstance during the semester that has prevented the completion of work as scheduled will be considered for an incomplete. Extenuating circumstances that qualify include severe personal illness, personal involvement in an accident resulting in serious injury, and death in the immediate family, or like occurrences. In these situations the instructor will consider granting an incomplete when three conditions have been met: (1) the student has notified the instructor about the circumstance preventing the completion of work as scheduled as soon as possible after the occurrence, (2) the student has provided the instructor with documentation (documentation is required by the university) proving a legitimate extenuating circumstance has occurred and has kept the instructor informed (as s/he is able) about the potential for the completion of work or a request for an alternate timeline, and (3) the student has completed at least 75% of the work for the course. The process outlined by the university is followed if an incomplete is granted.

Last Date to Drop the Course:

The last day to withdraw from a full semester class is listed on the Colonel's Compass Calendar (http://www.eku.edu/compass/calendar/).

Disability Statement:

The University strives to make all learning experiences as accessible as possible. If you are registered with the EKU Center for Student Accessibility (CSA), please obtain your accommodation letters from the CSA, present them to the course instructor, and discuss the accommodations needed. If you believe you need an accommodation and are not registered with the CSA, please contact the office in 361 Whitlock Building by email at disserv@eku.edu or by telephone at (859) 622-2933. Upon individual request, this syllabus can be made available in an alternative format.
A student with a "disability" may be an individual with a physical or psychological impairment that substantially limits one or more major life activities, to include, but not limited to: seeing, hearing, communicating, interacting with others, learning, thinking, concentrating, sitting, standing, lifting, performing manual tasks, working. Additionally, pregnancy accompanied by a medical condition(s), which causes a similar substantial limitation, may also be considered under the Americans with Disabilities Amendments Act (ADAAA).

Academic Integrity Policy:

Students are advised that EKU's Academic Integrity policy will be strictly enforced in this course. The Academic Integrity policy is available at http://studentrights.eku.edu/academic-integrity-policy. Questions regarding the policy may be directed to the Office of Academic Integrity located in the Turley House, or contact them by phone at (859) 622-1500. Academic integrity in this class is doubly important because you are not just students, you are also a teacher! The only thing worse than a cheating student is a cheating **teacher**! DO NOT CHEAT!

Official Email:

An official EKU e-mail is established for each registered student, each faculty member and each staff member. All university communications sent via e-mail will be sent to this EKU e-mail address

Course Requirements:

1. Completion of weekly in-class and online tasks
    a. For example, homework and in-class assignments including Blackboard, assignments/Quizzes/Reading Assignments/On-line assignments
2. KA7_Methods_PlanningandReflectiveEducatorProject (creation, delivery, self-assessment) – submitted to Taskstream
3. Mid-term and Final exam
4. Appropriate professional behavior

Course Outline:

Topics to be covered in this class

- ✓ Introduction to NCTM Content & Process Standards and Mathematical Practices

- ✓ Kentucky Academic Standards for Mathematics, New Teacher Standards (PGES), Program Review, Enduring Skills, Growth vs. Fixed Mindset
- ✓ Basic tenets of a mathematics program, history, themes of contemporary math programs
- ✓ Planning math lessons and Organization of the classroom for instruction
- ✓ Technology
- ✓ Instructional methods for teaching the following strands in mathematics:
    - Number Sense
        - Whole numbers, decimals, fractions, integers
        - Factors and multiples
    - Ratio and Proportion
    - Expressions and Equations
    - Geometry
    - Statistics and Probability