

2 Sept 15

Course Proposals

Course Name: Advanced Instructional Methods and Practices: Mathematics  
Course Prefix: MED  
Course Number: 6575  
Submitted by: David Byrd, davidbyrd@weber.edu

Current Date: 2/19/2015 College: Education  
Department: Teacher Education  
From Term: Spring 2015

Substantive

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new

Current Course Subject: N/A  
Current Course Number:

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New/Revised Course Information:

Subject: MED  
Course Number: 6575

Check all that apply: *This is for courses already approved for gen ed. Use a different form for proposing a new gen ed designation.*

- DV
- CA
- HU
- LS
- PS
- SS
- EN
- AI
- QL
- TA
- TB
- TC
- TD

- TE

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Course Title: Advanced Instructional Methods and Practices: Mathematics  
Abbreviated Course Title: Adv Method: Math  
Course Type: LEC  
Credit Hours: 3  
or\_if variable hours: to

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Contact Hours: Lecture: 45  
Lab:  
Other:

Repeat Information: Limit: 0  
Max Hrs: 0  
Grading Mode: standard

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This course is/will be:

- a required course in a major program
- a required course in a minor program
- a required course in a 1- or 2- year program
- elective

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Prerequisites/Co-requisites: Co-requisite: MED 6860 Practicum in Education

Course description (exactly as it will appear in the catalog, including prerequisites):

MED 6575 Advanced Instructional Methods and Practices: Mathematics  
Credits: (3)  
Typically taught:  
Spring [full semester]

The purpose of this course is to prepare teacher candidates to teach mathematics to Tier 2 and 3 students in elementary and secondary classrooms. Teacher candidates will acquire a set of skills that will enable them to determine what math concepts to teach to pupils and effective instructional methods to aid in the teaching of these concepts. This course is to be taken concurrently with MED 6860 Practicum in Education.

Justification for the new course or for changes to an existing course. (Note: Justification should emphasize academic rationale for the change or new course. This is particularly important for courses requesting upper-division status.)

MED 6575 Advanced Instructional Methods and Practices: Mathematics meets the needs of teacher candidates who need to be able to remediate mathematics curriculum for special education students with elementary and secondary math deficits, specifically meeting the Council for Exceptional Children (CEC) beginning teacher standards. This course will teach candidates to follow the instructional planning and evaluation cycle in math that will facilitate effective teaching of special education students. This course will address the Utah Core Curriculum Standards, in order to give candidates the ability to provide special education students access to the general education curriculum at this level. The course content is based on the requirements of the Utah State Office of Education for K-12 special education teacher candidates.

INFORMATION PAGE  
for substantive proposals only

1. Did this course receive unanimous approval within the Department? true

If not, what are the major concerns raised by the opponents? N/A

2. If this is a new course proposal, could you achieve the desired results by revising an existing course within your department or by requiring an existing course in another department?

No other course in the department meets the needs of MED 6575.

3. How will the proposed course differ from similar offerings by other departments? Comment on any subject overlap between this course and topics generally taught by other departments, even if no similar courses are currently offered by the other departments. Explain any effects that this proposal will have on program requirements or enrollments in other department. Please forward letters (email communication is sufficient) from all departments that you have identified above stating their support or opposition to the proposed course.

No other course on campus is similar to MED 6575.

4. Is this course required for certification/accreditation of a program? yes

If so, a statement to that effect should appear in the justification and supporting documents should accompany this form.

5. For course proposals, e-mail a syllabus to [Faculty Senate](#) which should be sufficiently detailed that the committees can determine that the course is at the appropriate level and matches the description. There should be an indication of the amount and type of outside activity required in the course (projects, research papers, homework, etc.).

Please mail a signed [approval page](#) to the Faculty Senate Office, MA 210J, MC 1033.

APPROVAL PAGE

for: MED 6575 Advanced Instructional Methods and Practices: Mathematics Date submitted online February 19, 2015

For new course proposals, excluding Experimental and Variable Title courses, the following must be completed by the Library bibliographer:

The WSU Library has adequate information resources to support this proposal.

Currently, the WSU Library does not have adequate information resources to support this course. However, if this proposal is approved, a Library bibliographer will work closely with departmental faculty to acquire the information resources needed. Funding for the new resources will come from the library's budget.

Joan Hubbard WSU Librarian/Date 2/19/15

Approval Sequence:

KT Hadley 2/19/15  
Department Chair/Date (or BIS Director)

Blonkin 3.5.15  
College Curriculum Committee/Date (Signature not needed on Experimental or Variable Title courses.)

\_\_\_\_\_  
Career and Technical Education Director. (Needed on new or deleted courses required in a 2-year program.)

Chloe D Merrill 3-4-15  
Dean of College/Date

Courses required in programs leading to secondary undergraduate teacher certification must be approved by the University Council on Teacher Education before being submitted to the Curriculum Committee.

\_\_\_\_\_  
University Council on Teacher Education/Date

Graduate course proposals must be reviewed by the University Graduate Council before being submitted to the Curriculum Committee.

I have read the proposal and discussed it with the program director.

Madeline Stevens 3/27/15  
University Graduate Council Representative/Date

\_\_\_\_\_  
University Curriculum Committee/Date

Effective  
Semester \_\_\_\_\_

Passed by Faculty Senate \_\_\_\_\_ Date

## MED 6575 Advanced Instructional Methods and Practices: Mathematics (3 credits)

<b>Instructor:</b>	TBA
<b>Class Time</b>	TBA
<b>Classroom:</b>	TBA
<b>Office:</b>	TBA
<b>Office hours:</b>	
<b>Telephone:</b>	
<b>E-mail:</b>	

**Text:**

Stein, M., Kinder, D., Silbert, J., Carnine, D. (2006). *Designing Effective Mathematics Instruction* (4th ed.).

**Course Description:**

The purpose of this course is to prepare special education teacher candidates to teach mathematics to Tier 2 and 3 students in elementary and secondary classrooms. Teacher candidates will acquire a set of skills that will enable them to determine what math concepts to teach to pupils and effective instructional methods to aid in the teaching of these concepts. This course is to be taken concurrently with MED 6860 Practicum in Education.

**Course Outcomes/Objectives:**

We work within our communities to prepare caring, competent educators and to promote inclusive and transformative education practices. The program standards are performance-based: that is, they describe what teachers should know and be able to do in order to be awarded a license. Course outcomes and objectives are geared around the Utah Effective Teacher Standards (UETS), and the Council for Exceptional Children (CEC) Standards.

**UETS**

1. Learner Development
2. Learning Differences
3. Learning Environments
4. Content Knowledge
5. Assessment
6. Instruction Planning
7. Instructional Strategies
8. Reflection and Continuous Growth
9. Leadership and Collaboration
10. Professional and Ethical Behavior

**CEC**

1. Learner Development and Individual Learning Differences
2. Learning Environments
3. Curricular Content Knowledge
4. Assessment
5. Instructional Planning and Strategies
6. Professional Learning and Ethical Practice
7. Collaboration

**Upon completion of this course, the student will meet the following objectives/outcomes:**

**Course Objectives:**

Objective	How/When Objective is Met
1. Gaining factual knowledge (terminology, classifications, methods, trends).	<ul style="list-style-type: none"> <li>• Attendance and Participation</li> <li>• In class assignments</li> <li>• IRIS modules</li> <li>• Presentations</li> <li>• Quizzes</li> </ul>
2. Learning to apply course material to improve conceptual understanding, problem solving, and decision-making with regard to doing math,	<ul style="list-style-type: none"> <li>• In class assignments</li> <li>• Presentations</li> <li>• Lesson presentation</li> <li>• Materials evaluation</li> </ul>

assessment, instructional planning and development, delivery of instruction and reflection on teaching and learning in mathematics.	
3. Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course.	<ul style="list-style-type: none"> <li>• Unit Plan</li> <li>• Presentations</li> <li>• In class assignments</li> </ul>

**CEC Standards that will be addressed in this course**

**CEC Standard 1: *Learner Development and Individual Learning Differences***

- Prepare and teach a math unit appropriate for use with individuals with math disabilities.

**CEC Standard 2: *Learning Environments***

- Discuss the relationship between student motivation and learning mathematics in the context of the NCTM Process Standards.

**CEC Standard 3: *Curricular Content Knowledge***

- Develop unit and lesson plans appropriate for use with students with various disabilities. Design appropriate learning and performance accommodations and modifications for individuals with exceptionalities in academic subject matter content of the general curriculum.
- Develop or modify methods for teaching concepts, computation, and problem solving to students with math learning problems using the NCTM Standards as a framework.

**CEC Standard 4: *Assessment***

- Develop curriculum-based assessments based upon the Utah Core Standards.
- Develop, administer, and analyze an informal math assessment appropriate for students with learning problems.

**CEC Standard 5: *Instructional Planning and Strategies***

- Unpack core standards, use Depth of Knowledge to determine level of complexity of thought, and write IEP goals based upon Utah Core Standards.
- Using Universal Design for Learning, identify accommodations for students with disabilities to provide access to the general education classroom.
- Identify research-based learning strategies and the steps involved in teaching these to students.
- Select appropriate materials to carry out instructional plans. Incorporate linguistically and culturally relevant materials.
- Identify and select appropriate technologies and adapted materials for students with special needs, and incorporate these in lesson planning. Develop a prescriptive instructional plan based on math assessment findings.
- Apply appropriate scope and sequence for math instruction in a math unit.

**CEC Standard 7: *Collaboration***

- Collaborate with cooperating teacher to assess, plan, and teach an appropriate series of mathematics lessons to students in your field placement.

**Course Assignments:** SEE CANVAS FOR DUE DATES: IN CLASS ASSIGNMENTS, CANVAS ASSIGNMENTS WILL NOT BE ACCEPTED LATE – NO EXCEPTIONS.

1. **Attendance and Participation:** Teacher candidates are expected to demonstrate professional behavior; therefore, you must notify the instructor **before** missing any class sessions. Each candidate is expected to read the assigned material before class and to participate in class discussions and activities. Points will be given for showing up on time, for participation in class discussions and attention to class information (no multitasking with electronic devices). **Excessive tardiness (i.e., more than 5 minutes late) will result in loss of points. (15 points).**
2. **In-class assignments:** Throughout the semester there will be activities/assignments conducted in class. Teacher candidates will be required to complete these activities either in groups or on their own. All activities will be completed during class-time. These cannot be made up if class is not attended. Some of these assignments require submission through canvas. Details will be given in class. **(10@3 pts; 30 pts total)**
3. **Readings:** For each reading candidates will answer questions, provide a brief review, complete an activity, or take a quiz. Details will be included on canvas in the reading assignment/quiz. **Reading reviews/quizzes/assignments are due before assigned class. (4 @ 5 pts, 2 @ 10 pts; 30 points total)**
4. **Iris Modules:** Teacher candidates will complete a series of online activities located at <http://iris.peabody.vanderbilt.edu/iris-resource-locator/#content>.
  - a. **Modules:** IRIS modules are divided into 5 sections—Challenge, Thoughts, Perspectives and Resources, Assessment, and Wrap up. Teacher candidates will be required to view each section of the module, write a one sentence summary for each page in the perspectives and resources section, complete all activities, and answer and turn in the questions located in the assessment section. **(2 @ 10 pts 20 points)**
  - b. **Case Studies:** IRIS case studies contain a series of case studies at varying difficulty (Levels). Along with the case study IRIS offers information on topics contained in STAR sheets. STAR sheets provide descriptions of strategies that help in solve the case studies in the Case Study unit. For Case Studies students will be required to complete the assignment section on specified cases. **(2 @ 10 pts 20 points)**
5. **Activity Presentation:** Each candidate will be responsible for one opening math activity. These activities must be ones that they could use when teaching mathematics in their practicum setting. **(15 points)**
6. **Lesson Presentation:** Using the Stien, Silbert, & Carnine text teacher candidates will present a lesson using the formats contained in the text. These lessons must include any materials necessary for students to complete the given activity. **(15 points)**
7. **Materials Evaluation:** Identify and review online math resources that can be used to supplement math instruction **(20 pts)**. This review will need to address the following items:
  - a. Ages/skill levels used for
  - b. Skill areas addressed
  - c. When and how it is used
  - d. Things you liked and disliked about the resource
8. **Collaborative Case Studies:** A series of 6 case studies will be conducted in class throughout the semester. Each case study will requires completion of part of the instructional planning and decision making process. These assignments will be completed in class in groups of no more than 3 students. Cases will be completed during class time. **(6@ 10pts, 60 pts)**
9. **Unit Plan:** In tandem with the practicum placement, in order to evaluate the application of content in this course, students will be required to submit a unit plan that covers the first 7 steps of the instructional planning and decision making process. (See Assignments and Curriculum Notebook handout) **(155 Pts)**
  - a. Step One: Analyze the Core Subject
  - b. Step Two: Develop & Administer Survey CBA

- c. Step Three: Analyze CBA results
- d. Step Four: Define the Instructional Program
- e. Step Five: Develop focused CBAs
- f. Step Six: Develop Monitoring System
- g. Step Seven: Develop Instructional Plans using evidence based strategies (includes units of instruction, daily lessons, daily formative assessments, and progress recording system)

10. **Quizzes:**

There will be four quizzes throughout the semester to assess teacher candidates' knowledge on lectures, material from the guided notes, important terms, class discussion, and assigned readings. They will consist of multiple choice, true/false and short answer questions.

**Grade Scale**

Percentage	Grade
94 - 100	A
90 – 93.99	A-
87 – 89.99	B+
83 – 86.99	B
80 – 82.99	B-
77 – 79.99	C+

Percentage	Grade
73 – 76.99	C
70 – 72.99	C-
65 – 69.99	D+
60 – 64.99	D
Below 60	F

**Instructor Expectations:**

**Instructional Methods:** A variety of instructional methods will be used to teach the course content. Included among these methods are online instruction, lecture, class discussion, and small group application activities.

**Attendance:** Students are expected to demonstrate professional behavior; therefore, you must notify the instructor before missing any class sessions. Unexcused absences will result in a lowering of your grade.

**Late Assignments:** Assignments are to be posted in the assignment drop box by 11:59 p.m. on the due date. Late assignments will be assessed with a 20% loss of total pts for the first session. Assignments more than one session late will be assessed with a 30% loss of total pts.

**Instructor student communication:**

In order to remain in compliance with FERPA, all email correspondence must come from you through a mail.weber.edu account. Be sure to check your student account often.

**Classroom Technology:**

As a courtesy to the instructor and other students, please turn your cell phones off or switch to the silent mode. Text messaging is prohibited during class time. Laptop and/or iPad use needs to be limited to appropriate classroom related functions.

**University Ethics Policy:**

Failure to maintain academic ethics/academic honesty including the avoidance of cheating, plagiarism, collusion and falsification will result in an E in the course and may result in charges being issued, hearings being held, and /or sanctions being imposed. Any violation of the WSU student code of conduct may result in a failing grade in the course and /or withdrawal of the students admission to the Teacher Education Program.

**ADA Statement:**

Any student requiring accommodations or services due to a disability must contact Services for Students with Disabilities (SSD) in room 181 of the Students Service Center. Their phone number is (801) 626-6413. SSD can also arrange to provide course materials (including this syllabus) in alternative formats if necessary.

**Counseling and Psychological Services:**

Weber State University has counseling services free of charge to students. If you feel you may be in need of these services for any reason, please contact them at 801 626 6406. Or visit the office in suite 280 of the Student Service Center.

**Campus Closure:**

In the event that WSU is closed for an extended period of time due to an unforeseen event, please access the course website <https://learn-wsu.uen.org/login> for information on how class will proceed.

*\* The instructor reserves the right to change any requirements or the course outline/schedule as deemed necessary. Students will be notified of any changes to the syllabus.*

Date	Topic	Assignment(s) Quiz
Week 1	Course Introduction Course Syllabus Utah Core State Standards	
Week 2	Step 1: Instructional Planning and Decision Making Math	Quiz 1 IRIS 1
Week 3	CBM Math	Unit Plan: Step 1
Week 4	Step 2: Instructional Planning and Decision Making Aligning CBM to student expectations in K-12 math	IRIS 2
Week 5	Counting and Cardinality: Evidence-based practices (EBPs) Numbers and Operations in Base 10: EBPs Numbers and Operations Fractions	Quiz 2 Unit Plan Step 2
Week 6	Step 3 & 4: Instructional Planning and Decision Making Analyzing CBA results	IRIS 3
Week 7	Operations and Algebraic Thinking EBPs Geometry EBPs	Unit Plan Step 3 & 4
Week 8	Step 5: Instructional Planning and Decision Making: Present Levels of Academic Achievement and Functional Performance (PLAAFP)	IRIS 4
Week 9	Measurement and Data: EBPs The Number System: EBPs	Quiz 3 Unit Plan Step 5
Week 10	Step 6 & 7: Instructional Planning and Decision Making CBA development and lesson planning	IRIS 5 Unit Plan Step 5
Week 11	IRIS Cases Algebra 1 & 2 Iris Modules	Unit Plan Steps 6 & 7
Week 12	Expressions and Equations: EBPs	
Week 13	Functions: EBPs	
Week 14	Ratios and Proportions: EBPs Statistics and Probability: EBPs	
Week 15	State/District Assessments	Quiz 4