SMTE 4370 Mathematics Education Topics I  
Department of Mathematics and Statistics  
Summer I 2020

A. COURSE INFORMATION

Course number/section: CRN 31111, SMTE 4370.W01
Class meeting time: Online
Class location: online via Blackboard
Course Website: TAMU-CC Blackboard https://bb9.tamucc.edu

B. INSTRUCTOR INFORMATION

Instructor: Valentina Postelnicu
Office location: CI-357
Office hours: MTWR 2:00pm-3:15pm online via WebEx, and by appointment
Telephone: (361) 825-3023 (office)
E-mail: Valentina.Postelnicu@tamucc.edu
Appointments: Please email me and include information about your availability during the week you would like to meet with me.

C. COURSE DESCRIPTION

Course Catalog Description
Presentations of contemporary issues in mathematics education. Topics include history of mathematics education, state and national standards for mathematics education, cognitive development, the importance of culture, language and gender in learning mathematics, authentic assessment, and interdisciplinary curriculum.

Extended Course Description
This is a course addressed to future mathematics teachers.

D. PREREQUISITES AND COREQUISITES

Prerequisites
None.

Corequisites
None.

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES

Required Textbooks
None.
Optional Textbooks or Other References


NOTE: For their activities and assignments, students may use other references, limited to books and articles from academic journals (Wikipedia is not an acceptable reference). It will be the students’ responsibility to find and access references for their papers. Visit https://help.library.tamucc.edu/ for help.

Supplies

Regular access to high speed internet and MS Office applications (e.g., Word, Power Point, Excel). Students may be responsible for providing webcams to be used during WebEx
F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be able to:

1. Demonstrate knowledge of the history of mathematics education in US.
2. Analyze the influence of various factors (e.g., SES, gender) upon mathematics performance.
3. Demonstrate knowledge of the factors influencing lesson design (e.g., students’ cognitive development stage or prior knowledge), and using authentic assessments.
4. Investigate the possibility of interdisciplinary curricular approaches.

G. INSTRUCTIONAL METHODS AND ACTIVITIES

This fully online course will be a combination of individual investigations and whole-class discussions via TAMUCC Blackboard and WebEx. All participants are expected to engage in group and whole class activities by contributing knowledge and thoughtful evaluation of others’ contributions.

H. MAJOR COURSE REQUIREMENTS AND GrADING

Grades will be based on the percentage of total points the student earns. There will be points given on the following:

<table>
<thead>
<tr>
<th>ACTIVITY/ASSIGNMENT</th>
<th>% of FINAL GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Blackboard/Discussion Forum</td>
<td>25%</td>
</tr>
<tr>
<td>Readings, Summaries, Examples (online)</td>
<td>25%</td>
</tr>
<tr>
<td>Timeline Project (History of School Geometry in US) (online, WebEx presentation)</td>
<td>10%</td>
</tr>
<tr>
<td>Final Project and Presentation (online, WebEx presentation)</td>
<td>40%</td>
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</tbody>
</table>

Specific directions for course activities(assignments (e.g., content, format, submission, deadlines, feedback) will be posted on TAMUCC-Blackboard, at https://bb9.tamucc.edu/. The Final Project and the assignments requiring a paper and/or presentation will be graded using the following
Grading Rubric:

<table>
<thead>
<tr>
<th>Category</th>
<th>4 Exemplary</th>
<th>3 Good</th>
<th>2 Satisfactory</th>
<th>1 Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject knowledge 50%</td>
<td>Demonstrates subject knowledge throughout the entire assignment.</td>
<td>Demonstrates subject knowledge most of the time.</td>
<td>Demonstrates some subject knowledge.</td>
<td>Subject knowledge is not demonstrated.</td>
</tr>
<tr>
<td></td>
<td>All information is clear, appropriate, and accurate.</td>
<td>Most of the information is clear, appropriate, and accurate.</td>
<td>Some information is clear, appropriate, and accurate.</td>
<td>Information is confusing, insufficient, inappropriate, and inaccurate.</td>
</tr>
<tr>
<td></td>
<td>The solutions to all problems are correct.</td>
<td>Most of the solutions to problems are correct.</td>
<td>Some solutions to problems are correct.</td>
<td>Most of the problems have incorrect solutions.</td>
</tr>
<tr>
<td>Organization 30%</td>
<td>The sequence of information/proof is logical and well organized.</td>
<td>The sequence of information/proof is well organized.</td>
<td>Some parts of the sequence of information/proof is organized.</td>
<td>The sequence of information/proof is disorganized.</td>
</tr>
<tr>
<td>Communication (written paper, and/or ppt and oral presentation) 20%</td>
<td>Excellent written communication of ideas/ excellent integration of spoken and visual presentation.</td>
<td>Good written communication of ideas, most of the time/good integration of spoken and visual presentation, most of the time.</td>
<td>Some parts are well written, and ideas are communicated effectively / some parts of the presentation are coordinated orally and visually.</td>
<td>The written paper is hard to follow, ideas are not communicated effectively / the presentation is hard to follow, the spoken and visual presentation are not integrated.</td>
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</table>

Final grades will be assigned according to the following table:

**Percentage Grade**

- ≥90.0% A
- ≥80.0% B
- ≥70.0% C
- ≥60.0% D
- Below 60% F

I. COURSE CONTENT/SCHEDULE

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPICS</th>
<th>CHAPTERS</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/01</td>
<td>Reforming Mathematics Education in US – Standards Era</td>
<td>History of Mathematics Education in US</td>
<td>Wu (1997) - summary and Discussion Forum</td>
</tr>
<tr>
<td>Date</td>
<td>Assignment</td>
<td>Description</td>
<td></td>
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<tr>
<td>----------</td>
<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>06/02</td>
<td>Math Wars History of Mathematics Education in US</td>
<td>History of Mathematics Education in US</td>
<td></td>
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<tr>
<td>06/03-06/04</td>
<td>History of Mathematics Education in US Part I (Algebra)</td>
<td>History of Mathematics Education in US</td>
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<tr>
<td>06/08</td>
<td>History of Mathematics Education in US Part II (Geometry)</td>
<td>History of Mathematics Education in US</td>
<td></td>
</tr>
<tr>
<td>06/09</td>
<td>Piaget (only Stages of Cognitive Development)</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
</tr>
<tr>
<td>06/10</td>
<td>Critical Theory (SES, race)</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
</tr>
<tr>
<td>06/11</td>
<td>Critical Theory Issues (language, gender)</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
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<tr>
<td>06/15</td>
<td>Review</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
</tr>
<tr>
<td>06/16</td>
<td>Schoenfeld’s Classroom Observation Protocol</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
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<tr>
<td>06/17</td>
<td>Authentic Assessment</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
</tr>
<tr>
<td>06/18</td>
<td>Interdisciplinary Curriculum</td>
<td>Curriculum and Instruction Issues</td>
<td></td>
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<tr>
<td>06/22</td>
<td>Final Review</td>
<td>Final Project topic and outline</td>
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<td>06/23-06/25</td>
<td>Final Review</td>
<td>Final Project draft 1</td>
<td></td>
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<tr>
<td>06/29-07/01</td>
<td>Final Review</td>
<td>Final Project draft 2</td>
<td></td>
</tr>
<tr>
<td>07/02</td>
<td>Final Exam (Final Project and Presentation via WebEx)</td>
<td>Final Project (submitted online Blackboard/Discussion Forum) &amp; Presentation via WebEx</td>
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</tbody>
</table>

Note: Changes in this course schedule may be necessary and will be announced on Blackboard. The assignments and exams shown are directly related to the Student Learning Outcomes described in Section F.

J. COURSE POLICIES

Online delivery
This course will be delivered online. You can access it through TAMUCC-Blackboard at https://bb9.tamucc.edu/.

Should you have difficulties accessing Blackboard, contact IT help:
https://it.tamucc.edu/gethelp. For online office hours and meetings we will use WebEx. Instructions on how to use WebEx will be provided via TAMUCC-Blackboard.

**Late Work and Make-up Exams**
Late assignments will not be accepted, unless exceptional circumstances prevent you from completing them. Extension of deadlines will be at the instructor’s discretion. Late assignments may result in partial or total loss of credit. There are NO make-ups for missed assignments or synchronized online activities. Exceptional circumstances (e.g., documented illness, family situations) may be considered at the instructor’s discretion.

**Extra Credit**
There will be no extra credit for this course.

**Participation**
You are expected to be prepared and participate in all course activities.

**K. COLLEGE AND UNIVERSITY POLICIES**

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **Classroom/Professional Behavior**
  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**
  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality
educational experience that is free from repression. You are responsible for following the rules of the University, city, state and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

• **Deadline for Dropping a Course with a Grade of W (University)**
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course. Should dropping the course be the best course of action, **you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Please consult the Academic Calendar (http://www.tamucc.edu/academics/calendar/) for the last day to drop a course.**

• **Grade Appeals (College of Science and Engineering)**
As stated in University Procedure 13.02.99.C0.03, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is required to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf). For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

• **Disability Services**
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for
assistance at (361) 825-5816.
http://disabilityservices.tamucc.edu/

• Civil Rights Complaints
Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at Title IX/Sexual Assault/Pregnancy.

Limits to Confidentiality. Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

• Statement of Academic Continuity
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

L. OTHER INFORMATION

• Academic Advising
The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

GENERAL DISCLAIMER
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner via Blackboard and during regularly scheduled lecture periods.