Central Connecticut State University  
Math 412 (02) Elementary Mathematical Methods  
Fall 2021 TR Syllabus

**Professor:** Dr. Shelly M. Jones  
**Class Time, Location:** Math 412-01 TR 9:25 – 10:40 am  
Bassett Hall Room 302  
**Office:** Maria Sanford 312  
**Telephone:** (860) 832-2857  
**E-mail:** jonessem@ccsu.edu  
**Office Hours:** Monday 1:00 – 3:00 pm and 6-7 pm (virtual*)  
Tuesday 11:00 am – noon  
Friday 11:00 am – noon  
*I will hold one office hour per week (6-7pm) virtually in my Personal WebEx Room. Please make an appointment by emailing me or informing me during class that you intend on joining me in my personal WebEx room for a meeting. (NOTE: If you need to meet me in my office during this time instead of on WebEx please let me know)

**Dr. Jones's Personal WebEx Room**  
https://ccsu.webex.com/meet/jonessem  
648808755  
**Join by video system**  
Dial jonessem@ccsu.webex.com and enter your host PIN. You can also dial 173.243.2.68 and enter your meeting number.  
**Join by phone**  
1-650-479-3208 Call-in number (US/Canada)  
1-877-668-4493 Call-in toll-free number (US/Canada)  
Access code: 648 808 755

**Course Overview:** This course examines the methods and procedures in teaching mathematics concepts at the elementary level. It is designed to prepare pre-service elementary teachers to become independent professionals who can effectively arrange learning environments, plan educational activities, assess learning outcomes, and integrate technology, culture and children’s literature within lessons. The course content will be presented using practices that are aligned with the National Council of Teachers of Mathematics (www.nctm.org) Standards and the Connecticut Core Standards (http://ctcorestandards.org/). Teacher Candidates will have the opportunity to apply the content and pedagogy from this course and other methods courses by taking part in a field experience practicum during the semester (EDTE 420, EDEL 415, RDG 412, SCI 412, FA 412). This course is taken the semester before student teaching.  

**Prerequisite:** Math 213: Structure in Mathematics II: Probability and Geometry (C- or higher) and admission to the Professional Program
**Required Textbook:**

**Recommended Textbook:** Burns, M., Math: Facing an American Phobia, Sausalito, CA: Math Solutions Publications, 1998. (I will also post an article about math phobia/anxiety in Blackboard)

**Online Resources:**

**Journal Readings**: NCTM’s *Teaching Children Mathematics, Mathematics Teacher: Learning and Teaching PK-12 (MTLT)* as well as other selected educational journals.

**Email**: All students are required to have a working CCSU email account. All course correspondence will be sent to CCSU email accounts only.

**Course Objectives:**

A. To examine the content and presentation of mathematics currently being taught in elementary schools.
B. To introduce students to curricular reforms and current literature in the area of teaching mathematics in elementary schools.
C. To encourage students to examine and reflect on their professional background in mathematics with a goal of self-improvement.
D. To anticipate current educational trends with a view to the future needs of all educated people in the area of mathematics.
E. To introduce students to the Common Core State Standards for Mathematics and Mathematical Practice
F. To help students become more aware of how to teach culturally relevant mathematics.

**University Policy:**

For complete COVID-19 measures for Fall 2021 read the CCSU Blueprint in its entirety. CCSU President Toro has issued guidelines for reopening the campus safely with regard to the COVID 19 pandemic. Details can be found on the CCSU blueprint: [https://www.ccsu.edu/blueprint/](https://www.ccsu.edu/blueprint/). Please know that both students and instructors have a role to play in keeping everyone safe – Thank You for doing your part. If at any time you safety concerns in class, please voice them as they occur (or let me know after class or via email).

**The last day to withdraw from the course with a W is November 17, 2021.**

Cessation of attendance, notice to the instructor, or telephone calls to the Enrollment Center are not considered official notice of a student’s intention to withdraw from the course. The student must complete and submit the appropriate Withdrawal form.
Professor Policies:

**Attendance**: You are expected to attend all class meetings on time and participate in class activities and discussions. All reading assignments should be completed prior to the appropriate class session. Please bring your Van de Walle textbook to each class. In the unlikely event that you are unable to attend a class session, please send me an e-mail explaining your absence. It is the student’s responsibility to obtain homework and journal assignments in the event of an absence. Late assignments will only be accepted the next class meeting with an excused absence or with points deducted.

**Evaluation:**
Your grade for the course will be determined in the following manner as outlined below.

1. **Class attendance, participation in break-out group discussions and WebEx/Blackboard Collaborate presentations**: Class participation is an essential component of this course; therefore, active engagement is essential. 20% of grade

2. **Reflections**: (3-6 points each)
   a. Math anxiety/phobia (online discussion) – 3 pts
   b. Culturally relevant teaching (online discussion & written reflection) – 6 pts
   c. Community Walk OR Getting to know a student – 3 pts
   d. Scholarly journal article (online discussion) – 3 pts
   10% of grade

3. **Written Assignments**: (3-6 points each)
   a. Cognitive Demand of Math Tasks (4 pts)
   b. Types of Word Problems & Alternate Algorithms Worksheet (6 pts)
   c. Fractions Worksheet (6 pts)
   d. Children’s Literature and Math Connections Worksheet (3 pts)
   e. Assessing Student Work and Providing Feedback (6 pts)
   25% of grade

4. **Lesson Plans**: You will write TWO full math lesson plans using the template provided on Blackboard. One of the lessons will include a written lesson plan AND a lesson presentation (microteach a portion of the lesson) to our class. It is your choice which lesson plan you write first. Either the lesson from the Investigations Curriculum OR the Culturally Relevant/Social Justice lesson. Whichever lesson you write first will be the lesson you present to our class.
   a. Lesson from existing Curriculum Materials (i.e., Investigations, Engage NY, Illustrative Mathematics, etc. You may partner with a classmate or do alone. The lesson must include one of the following: use of manipulatives OR technology OR children’s literature.
   b. Culturally Relevant or Social Justice Math Lesson (You may use the lesson connected to the Community Walk/Getting to Know You Assignment)
   Note: Choose one of the lessons above to teach a minilesson to your classmates
   (Each lesson plan is 10 points, Microteach is 5 points) 25% of grade

5. **EdTPA Task 4: Scoring a MAC**
a. Classroom Learning including Conceptual, Procedural or Problem Solving/Reasoning

b. Focus Student Learning

c. Quality of Teaching including the Re-engagement Lesson and Student Work on Re-engagement Lesson

20% of grade

Note: “Students enrolled in this course who are seeking teacher certification should be aware that all professional education courses are guided by the Conceptual Framework of the School of Education and Professional Studies. Professional education courses prepare students to be active learners, reflective and collaborative practitioners, and facilitators of learning for all students. The complete Framework may be accessed at: SEPS Conceptual Framework

Statement on Discrimination and Harassment
Central Connecticut State University strives to maintain our campus as a place of work and study for faculty, staff, and students that is free of all forms of prohibited discrimination and harassment based upon age; ancestry, color; gender identity and expression; intellectual disability; learning disability; mental disorder; physical disability; marital status, national origin; race; religious creed; sex, (including pregnancy, transgender status, sexual harassment and sexual assault); sexual orientation; or any other status protected by federal or state laws. Any student who has concerns should contact the Office of Diversity and Equity (ODE) at 860-832-0178, Student Affairs at 860-832-1601, or his/her faculty member. The ODE is located on the main floor of Davidson Hall, Room 102.

Sexual Misconduct, Intimate Partner Violence and Stalking
Option 1. Central Connecticut State University is committed to providing a learning and working environment that emphasizes the dignity and worth of every member of its community. Sexual harassment (including sexual assault) in any form will not be tolerated. "Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. For additional information, please consult the CCSU policies at http://www.ccsu.edu/diversity/policies/index.html. All faculty members and staff have a duty to report incidents of sexual harassment including sexual violence to Nancy "Rusty" Barcelo, Interim VP for Diversity, Inclusion, and Equity, Office of Diversity and Equity, Davidson Hall, 102.

Option 2. Central Connecticut State University (CCSU) will not tolerate sexual misconduct against students, staff, faculty, or visitors in any form, including but not limited to: sexual assault, sexual exploitation, sexual harassment or stalking, as defined in CCSU policies. For additional information, please consult the CCSU policies at http://www.ccsu.edu/diversity/policies/index.html. All faculty members and staff have a duty to report incidents of sexual harassment including sexual violence to Nancy "Rusty" Barcelo, Interim VP for Diversity, Inclusion, and Equity, ODE, Davidson Hall, 102.

To file a report, contact: Diversity and Equity (860-832-0178); Student Affairs (860-832-1601); Student Conduct (860-832-1667); or the University Police (860-832-2375).

For support and advocacy contact: Office of Victim Advocacy & Violence Prevention (Diloretto Hall 305) at 860-832-3795 to speak with Joanna Flanagan {jflanagan@ccsu.edu}; Student Wellness Services at 860-832-1925 (confidential), the Women’s Center at 860-832-1655, the local YWCA’s Sexual Assault Crisis Services Hotline at 860-223-1787 (confidential) and Prudence Crandall Center for Domestic Violence (confidential) at 888-774-2900 (24-hour hotline).
## Math 412 Elementary Mathematical Methods
### Tentative Schedule of Topics for TR

**Note:** The pages listed are for Van de Walle, 9th Edition (I have the 9th edition)

**Note:** When saving your assignments to upload to Blackboard PLEASE include: Your name, abbreviated name of assignment and semester (Fall21) – For example: SJones_CogDemand_2021.

*TC – indicates you as Teacher Candidates. Students – indicates elementary students*

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic (TO DO/DISCUSS IN CLASS)</th>
<th>HOMEWORK: Do the readings AFTER class on the day listed in preparation for the next class. When Due Dates are listed, the assignment IS DUE THAT DAY usually on Bb by midnight.</th>
</tr>
</thead>
</table>
| R    | 8/26                          | Introductions (Ice Breaker), Overview of Course/Syllabus  
*Note: The pages listed are for Van de Walle, 9th Edition*  
Read: Stein & Smith (1998) article on level of cognitive demand in math tasks and **DO the math task sort.**  
Read: Van de Walle Chapter 3 pgs. 37-43 (Focus on High levels of Cognitive Demand). |
| T    | 8/31                          | Dr. Jones will present a Powerpoint on the levels of cognitive demand. TCs will discuss the task sort in the Stein & Smith article.  
**CHOOSE Culturally Relevant Partner and Article**  
**DUE:** Written Cognitive Demand Task Sort Assignment |
| R    | 9/2                           | **Culturally Relevant (or Social Justice) Teaching in Mathematics.** Choose a partner and sign up on the sheet in our class Google Folder. Read one of the articles listed below and in Blackboard. Discuss with your partner and be ready to share main points in next class (Create one Powerpoint slide with a few important points and put it in our class Google Folder)  
Johnson (2011) Social Justice Math  
Felt Microsoft Word.docx at T 9/7  
Felton (2010) – Is Math Neutral?  
Turner & Strawhun (2007) – Using Math to investigate overcrowding  
Leonard & Guha (2002) – Cultural Relevance  
Ukpokodu (2011) Culturally Responsive Teaching  
Gear (2012) – Culture in Math, sharing with families  
Iliev & D’Angelo (2014) Multicultural Children’s Literature |
| T    | 9/7                           | Rosh Hashanah  
In partner groups you will share about your culturally relevant pedagogy article (Put a few main points on one Powerpoint slide)  
Dr. Jones will show a brief CRP/SJ Powerpoint presentation.  
**Everyone Read:** Van de Walle Chapter 6 – Teaching Math Equitably (Focus on culturally & linguistically diverse students) |
| R    | 9/9                           | Discuss Van de Walle Chap. 6 - Teaching Math Equitably  
**DUE:** One-page reflection paper on culturally relevant teaching (What is...
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tr>
<td>9/14</td>
<td><strong>T</strong> <strong>R</strong></td>
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<tr>
<td>9/14</td>
<td><strong>T</strong> <strong>R</strong></td>
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<tr>
<td>9/16</td>
<td><strong>T</strong> <strong>R</strong></td>
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<tr>
<td>9/21</td>
<td><strong>T</strong> <strong>R</strong></td>
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<tr>
<td>9/23</td>
<td><strong>T</strong> <strong>R</strong></td>
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<td>9/28</td>
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<tr>
<td>9/30</td>
<td><strong>T</strong> <strong>R</strong></td>
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**Bring a children’s literature book to next class** with a slide including the book title & author, pic of book, summary, and math connection. How can you use it in a math lesson, what did you learn from the readings, discussions & presentations? – this is not only about your article – dig deeper.

**Read:** Jo Boaler’s Math Anxiety article and one other resource about math anxiety/phobia (i.e., Marilyn Burns *Math Phobia* book, chapters 1-3 & 9, Sheila Tobias’ book *Succeed with Math* chapters 1&2 or an article by Burns or Tobias or other author).

**Read:** Van de Walle Chapter 4 (Focus on: pgs. 57 – 69 three-phase lesson format and 72 – 75 differentiating instruction)

Start thinking about your first lesson plan. You will start with an existing lesson from the *Investigations* curriculum in Bb folder (or other approved curriculum materials), modify it and teach a mini lesson. You may choose a partner or do it alone. Plan a 15-minute segment of your written lesson that you can present to your classmates.

**Read:** Thinking Through a Lesson Plan article (Smith et al.)
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Details</th>
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<tbody>
<tr>
<td>10/5</td>
<td>Mini lesson presentations: <strong>BOTH</strong> partners please upload your Powerpoint to Blackboard.</td>
<td><strong>DUE:</strong> Written Lesson Plan #1</td>
</tr>
</tbody>
</table>
| 10/7   | Mini lesson presentations. **BOTH** partners please upload your Powerpoint to Blackboard.   | **DUE:** Written Lesson Plan #1  
**Read:** Choose one approved article to read with a partner or on your own. Be ready to share with classmates in an online discussion. Source: NCTM journals (some are posted in Blackboard or you can find one on your own) |
| 10/12  | **ONLINE DISCUSSION:** Instructional strategy articles. Start discussion on Tues. end on Thursday at midnight. Post a summary of your article (just one per partner group about 75-125 words) and respond to at least one other post (each TC will respond on your own to a classmate’s post. About 50-75 words). |                                                                                                                                                                                                       |
| 10/14  | Do **Getting to Know a Student** Interview or **Community Walk** Assignment |                                                                                                                                                                                                       |
| 10/19  | TC’s will share:  
A) **Community Walk Activity**  
B) **Getting to Know a Student Interview**  
C) Please address: How you would use this information to inform your instruction. | **DUE:** One-page Community Walk write up or **Getting to Know a Student** write up.  
**Read:** Van de Walle Chapter 5 on Assessment                                                                                           |
| 10/21  | Discuss Assessment Van de Walle ch. 5)  
Using sample student work, TCs will create evaluation criteria/rubrics (in groups) in class & score student work (individually) for homework. | Begin Assessment Assignment: Scoring student work and providing feedback. **CHOOSE ONE GRADE LEVEL** – either the Candy Bar Task or the Area of a Banner Task |
| 10/26  | Discuss Assessment Assignment – Q&A | **DUE:** Assessment Assignment  
**Read:** Pages 43 – 75 of edTPA Handbook on Bb, specifically about the Math Assessment Commentary (MAC). **Come to class with at least one question.** |
<p>| 10/28  | Dr. Jones will discuss edTPA Task 4. Briefly describe the elements of edTPA: Elementary Mathematics Context for Learning, and Elementary Mathematics Learning Segment Overview. | .                                                                                                                                                                                                       |</p>
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Additional Details</th>
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<tbody>
<tr>
<td>T 11/2</td>
<td>Plan 2nd Lesson (IN CLASS OR OFFSITE – YOUR CHOICE)</td>
<td>Read: Van de Walle Chapter 8 – Developing Early Number Concepts (pg. 142-160)</td>
</tr>
<tr>
<td>R 11/4</td>
<td>Introduction to: Types of Word Problems &amp; Alternate Algorithms</td>
<td>Read: Fractions Chapter in Van de Walle</td>
</tr>
<tr>
<td>T 11/9</td>
<td>Practice and complete worksheet in class – Q&amp;A</td>
<td>DUE: Types of Word Problems &amp; Alternate Algorithms Worksheet</td>
</tr>
<tr>
<td>R, 11/11</td>
<td>Introduction to conceptual versus procedural notions of Fractions</td>
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<tr>
<td>T 11/16</td>
<td>Practice &amp; complete worksheet in class – Q&amp;A</td>
<td>DUE: fraction activity sheet showing work and providing conceptual explanation of solution processes</td>
</tr>
<tr>
<td>R 11/18</td>
<td>Examine edTPA Rubrics 16-18 using a Sample MAC</td>
<td>Score sample MAC (don’t hand in just be ready to discuss &amp; ask questions</td>
</tr>
<tr>
<td>T 11/23</td>
<td>DUE: Lesson Plan #2</td>
<td>No class; however, Dr. Jones will be available for Q&amp;A in the classroom</td>
</tr>
<tr>
<td>R 11/25</td>
<td>NO SCHOOL – HAPPY THANKSGIVING</td>
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<tr>
<td>T 11/30</td>
<td>Discuss scoring the sample MAC Q&amp;A</td>
<td>Start edTPA MAC Final Project: Scoring a MAC and providing feedback for mock TC</td>
</tr>
<tr>
<td>R 12/2</td>
<td>Discuss MAC Final Project Q&amp;A</td>
<td>Prepare edTPA MAC Presentation Group discussion notes</td>
</tr>
<tr>
<td>T, 12/7</td>
<td>edTPA MAC final presentations (each 3-5 min.) via group discussions: What have you learned? What do you still need to know? Report out take-aways.</td>
<td>Complete edTPA MAC Final Project (Written portion)</td>
</tr>
<tr>
<td>Final Exam Week</td>
<td>Tuesday 12/14 from 8:00 AM - 10:00 AM</td>
<td>edTPA Task 4 MAC Final Project Due by midnight</td>
</tr>
</tbody>
</table>
CAMPUS RESOURCES

WRITING CENTER
The Writing Center offers free one-on-one sessions with a talented and experienced staff of undergraduate, graduate, and faculty tutors. The Center works with students from any discipline and at any stage in their writing process, including interpreting assignment prompts, brainstorming material, and integrating research. The Writing Center is open Monday through Friday during the fall and spring semesters while classes are in session. For current hours, check the Center’s website at http://www.ccsu.edu/writingcenter.

THE LEARNING CENTER
It can be confusing and stressful when you are struggling in school and do not know where to turn. Often, students run into issues with their academics because they are unsure of what to do or who to ask for help. Ask us...We are here for you! The Learning Center, 860.832.1900, Willard- DiLoreto Hall, Room D316
Not getting the grades you want? Or need to get more done in less time? Academic Coaching is a personalized program to help you maximize the effectiveness of time spent studying.
Academic Coaching is located in The Learning Center,
The Learning Center offers drop-in tutoring for math, statistics, general and organic chemistry and intro physics. Please bring your books, notes and assignments. Our peer tutors will work with you to help you master the material. Day and evening hours are available – please refer to our website http://web.ccsu.edu/tlc

EARLY ALERT
The Early Alert program is a way for professors to let students know that they may be in jeopardy of doing poorly in a course before the end of the semester. The Early Alert program is designed to connect you with the help you need while there is still time in the semester to improve your performance in the class. Early Alert referrals do not go on your record. If you are referred to Early Alert, please contact the Early Alert Coordinator to get the assistance you may need! The Learning Center, 860.832.1900, Willard- DiLoreto Hall, Room D316.

ELIHU BURRITT LIBRARY RESOURCES
Get help with all of your research needs. Librarians offer one-on-one assistance at the Reference Desk or by appointment. We also offer instruction in all aspects of the research process, including where and how to find books in the library or online, how to access articles and scholarly resources from databases, and how to format citations. Librarians can also support your research needs by making library resources from around the world available through interlibrary loan. Textbooks and course readings are often available through our course reserves system. Visit, call, email, or chat with librarians during regular library hours to use or learn more about library services and resources - 860-832-2060 - or visit the library online at http://library.ccsu.edu.

STUDENT DISABILITY SERVICES
If you are a student with a documented disability, and would like to request academic accommodations, you are encouraged to contact Student Disability Services (SDS) at 860-832-1952, or email disabilityservices@ccsu.edu. Please visit the SDS website at http://www.ccsu.edu/sds/ to download an Intake form and documentation requirements. Temporary impairments may also qualify for accommodations. Central Connecticut State University provides reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act for students with documented disabilities on an individualized basis.
ACADEMIC INTEGRITY
At Central Connecticut State University, we value personal integrity as fundamental to our interactions with each other. We believe that one of the purposes of a University education is for students to learn to think critically, to develop evaluative skills, and to express their own opinions and voices. We place special weight on academic honesty in all of our intellectual pursuits because it is a value that is fundamental to academic life and scholarly practice. All members of the University community are obligated to uphold high standards of academic honesty in their scholarship and learning. Therefore, we expect you to take personal responsibility for your intellectual work and to respect and acknowledge the ideas of others. Academic honesty means doing your own work and giving proper credit to the work and ideas of others. It is your responsibility to become familiar with what constitutes academic dishonesty and plagiarism and to avoid all forms of cheating and plagiarism. For more information, see: http://www.ccsu.edu/academicintegrity/

REGISTRAR’S OFFICE
REGISTRATION/ADD/DROP/WITHDRAWAL PERIODS
You are permitted to add/drop courses, subject to seat availability, through the end of the first week of the semester. Course drops (without a “W” on your transcript) are permitted through the end of the third week of the semester. Withdrawals beginning at the fourth week of the semester will result in a “W” on your transcript. Withdrawals after the twelfth week of the semester will only be permitted if there are extenuating circumstances, supported by documentation, and approval by the Instructor and Department Chair. Add, Drop, and Withdrawal deadlines are prorated for courses less than full semester length. Refer to the Office of the Registrar Calendar at www.ccsu.edu/registrar for specific dates each term.

ADVISING AND REGISTRATION FOR FUTURE SEMESTERS
Academic Advising begins in late-March for the fall semester and mid-October for the spring semester. Refer to www.ccsu.edu/registrar for advising and registration details, including access to the course schedule and identifying registration start date and time.

FINAL EXAM SCHEDULE
The standard final exam schedule is posted at www.ccsu.edu/registrar by the start of each semester. Examinations will be held in your regularly scheduled classroom unless you are told otherwise by your instructor.

INCLEMENT WEATHER POLICY
At the discretion of the President, classes may be cancelled or delayed because of inclement weather or special circumstances. The most accurate cancellation and delay information for Central Connecticut State University will be made available on the Storm Phone: (860) 832-3333 and on the Web at www.ccsu.edu, usually by 6:00 am.