



Course Syllabus: **EDUC 4043- Math Methods**

West College of Education

Section: DX1

Fall 2020, revised Aug 2020

Contact Information

Instructor: Dr. Dittika Gupta

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Office hours: Monday 2:30-3:30pm, Tuesday 2:00-3:30pm, Thursday 5:30-6:30pm; Friday 11:30-12:30pm

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Instructor Response Policy

We will be working and communicating constantly throughout the semester. Email is great however you will also be a part of class GroupMe which will provide more flexibility in communication. I will try my best to answer all emails and texts with 24 hours however you will definitely get a response within 48 hours (2 days). Any emails or texts received during weekends will not receive a response till the following Monday. No emails or texts will be answered over the weekend.

Textbook & Instructional Materials

1. Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2010). *Elementary and middle school mathematics: Teaching developmentally*. Boston: Allyn & Bacon (10th edition) **WITH Access code**
2. Handouts and copied materials as required through the semester.

Course Description

These field-based courses focus on elementary and middle school mathematics, science, and mathematics pedagogy with emphasis on instructional strategies and models, the use of technology in the learning/teaching process, effective practices, professionalism, curriculum, and lesson design. Different teaching strategies include: appropriate use of creative approaches to the learning/teaching process, cooperative learning, direct instruction, inquiry, concept attainment, etc. An important component

of this field-based block of classes is the course time spent in active participation in field (classroom) experiences

Course Objectives

- Learners are able to describe learning and thinking in elementary and middle mathematics.
- Learners will be able to develop curriculum and use effective instructional planning skills.
- Learners will be able to develop appropriate assessment tools to assess students learning.
- Learners will be able to use assessment data to design appropriate learning activities.
- Learners will be able to develop lesson plans that involve students in an active learning environment.
- Learners will be able to develop and implement effective teaching strategies.
- Learners will be able to develop lesson plans/units that incorporate national standards in mathematics and technology applications.
- Learners will be able to develop lesson plans/units that incorporate state standards in mathematics and technology applications.
- Learners will be able to develop and implement learning environments that utilize various teaching/learning strategies.
- Learners will be able to develop learning activities that involve the infusion of technology.

See Appendix A for a complete list of standards, competencies, and other expectations.

Study Hours and Tutoring Assistance

ASC offers a schedule of selected subjects tutoring assistance. Please contact the ASC, (940) 3974684, or visit the ASC homepage for more information.

Student Handbook

Refer to: [Student Handbook-2019-20](#)

Academic Misconduct Policy & Procedures

Academic Dishonesty: Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individual's to whom credit is given). Additional guidelines on procedures in these matters may be found in the Office of Student Conduct.

[Office of Student Conduct](#)

Attendance

Absence Policy - Professional teachers are dependable, reliable, and responsible. Therefore, candidates are expected to be on time and in attendance at **every** class, and to stay for the **entire** class. Tardiness, leaving early, and excessive absences (3) are considered evidence of lack of dependability, and are taken seriously. *Candidates will receive a grade of F on the third absence. If a candidate is taking 'blocked' courses that are taught at a Professional Development School, requiring field experience, the candidate will be dropped with an F from those classes as well.*

After an absence from the course it is imperative that a student schedule an appointment with the course instructor to discuss attendance. Failure to schedule and attend a conference will result in the loss of classroom participation and disposition points and also in grade being lowered by one letter. It is the candidate's responsibility to make up any missed work. It is also expected that you will complete all course field experience hours in a professional manner. Professional conduct is expected when observing or participating in school settings (e.g., dressing appropriately, arriving on time, remaining for the entire pre-arranged time, not canceling, and demonstrating respect in all interactions with young people, parents, teachers, and staff). If you must miss your field experience for any reason, you are expected to call the school and the teacher you are working with **before** school begins for the day. You must also contact the course instructor by e-mail or phone to let me know you will not be present and arrange a time with me when we can discuss the most appropriate way to make up that absence. Excessive tardiness (determined by the professor) can be defined as an absence and subject to the absentee policy. Three instances of tardy arrival will be counted as one absence.

In the event that a class member is absent, for whatever reason, that individual assumes responsibility for contacting the instructor to account for missed work and to turn in work. **It is impossible to provide a summary of all that takes place during any given class via email.** If a student is going to be absent, they have the responsibility to contact the instructor to turn in assignments and obtain copies of any handouts from the missed class. Tentative assignment due dates are listed on the course schedule. While the actual due dates may vary due to the flow of the class, all assignment due dates will be finalized and announced in class well in advance of the specific date. Late work, unless arrangements are made by the student and approved **in advance** by the instructor, **will not be accepted for full credit.**

Instructor Drop

As per the College policies, an instructor may drop a student any time during the semester for excessive absences, for consistently failing to meet class assignments, for an indifferent attitude, or for disruptive conduct. Instructor will give the student a verbal or written warning prior to dropping the student from

the class. The instructor-drop take precedence over the student-initiated course drop of a later date. The instructor will assign a grade of either WF or F through the first 8 weeks of this semester. After this period, the grade will be an F. The date the instructor drop form is received in the Office of the Registrar is the official drop date.

Class Participation

Students should participate in all activities of this course. It is important that students should meet all the deadlines as posted. In case of any emergency situation (like death or illness in family and so on) it is important that the student should report the same to the professor in a timely manner. It is your course and the primary intention should be to reach the goals and acquire proficiency in the topics discussed in the course. Although in general students are graded on intellectual effort and performance rather than attendance, absences may lower the student's grade where class attendance and class participation are deemed essential.

Excessive tardiness or absence (as determined by the professor), disruptive attitude, or failure to consistently class requirements might result in instructor-drop, if required. Being repeatedly late for class will also result in a grade reduction regardless of other marks. Tardiness will result in loss of classroom disposition points and three instances of tardy arrival will be counted as one absence.

Each student brings a unique perspective and life experience to the learning environment and is expected to actively and thoughtfully participate by making pertinent contributions. All students are expected to read assignments and be prepared to discuss them. Note that you are provided with focus questions that are designed to structure your reading of the assigned texts. Moreover, additional readings may be assigned by the course instructor. *Participating in class discussions and following expectations is a part of grade.* Please come to class with questions or issues from the reading that you found central or worthy of further exploration. Students may also be asked to do activities and exercises related to the assigned readings or to lead discussions on a topic or reading. You will have many opportunities to participate in class and on D2L, and such is a very important part of this course.

Online Computer Requirements

It is your responsibility to have (or have access to) a working computer in this class. *Assignments are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.* Computers are available on campus in various areas of the buildings as well as the Academic Success Center. Your computer being down is not an excuse for missing a deadline!! There are many places to access your class! Our online classes can be

accessed from any computer in the world which is connected to the internet. Contact your instructor immediately upon having computer trouble. If you have technical difficulties in the course, there is also a student helpdesk available to you. The college cannot work directly on student computers due to both liability and resource limitations however they are able to help you get connected to our online services. For help, log into D2L.

Instructor Classroom Policies

Students are expected to assist in maintaining a classroom environment which is conducive to learning. In order to assure that all students have the opportunity to gain from time spent in class, unless otherwise approved by the instructor, students are prohibited from engaging in any form of distraction—this includes, but is not limited to, pagers and cell phones. In the classroom or during virtual meetings, cell-phones need to put away so that they do not disrupt the learning environment for you and others. Inappropriate behavior in the classroom shall result, minimally, in a request to leave class and a Professional Fitness Form will be filed for review with the college. If the instructor must file a Fitness Alert Form for any reason, including failure to demonstrate appropriate teaching dispositions, the student may receive an instructor drop with an "F" for the course

Any student who misses class (for any reason) remains responsible for contacting other students to obtain class. In the event that a class member is absent, for whatever reason, that individual assumes responsibility for contacting the instructor to account for missed work and to turn in work. It is impossible to provide a summary of all that takes place during any given class via email. If a student is going to be absent, they have the responsibility to contact the instructor to turn in assignments and obtain copies of any handouts from the missed class. Tentative assignment due dates are listed on the course schedule. While the actual due dates may vary due to the flow of the class, all assignment due dates will be finalized and announced in class well in advance of the specific date. ***Late work, unless arrangements are made by the student and approved in advance by the instructor, will not be accepted for full credit.***

Cheating, collusion, and plagiarism (the act of using source material of other persons, either published or unpublished, without following the accepted techniques of crediting, or the submission for credit of work not the individuals to whom credit is given) will not be considered. I use turnitin for the written assignments and D2L directly syncs with it (you do not have to do anything). You will be able to see the plagiarism percentage and are welcome to make changes and resubmit **BEFORE** the due date. Any plagiarism of 30% and above is too much and the assignment will not be graded, given a zero, and no make-up allowed!!!

Grading/Assessment

Table 1: Points allocated to each assignment.

Assignments	Grade Points
Course Quiz	10
Chapter Quizzes	92
Written Assignments	95
Lesson Plan	100
Lesson Observation	100
Unit Plan	108
Class Participation and Disposition	45
TOTAL	550

Table 2: Total points for final grade.

Grade	Points
A	90% - 100%
B	80% - 89%
C	70% - 79%
D	60% - 69%
F	Below 59%

Quizzes

There are six quizzes with varying grade points in this course that align with the book chapters. Each quiz has some multiple choice and some open-ended questions. Details for each of them along with rubric for open-ended questions will be provided.

Written Assignments

There are five brief written assignments in this course that build your understanding of thinking about how children assimilate mathematics and also prepare you to become aware of research-based practices in teaching mathematics. Details for each of them will be provided in class and also available on D2L.

Lesson Planning

Teacher candidates must demonstrate the ability to plan, assess, and implement instruction. This begins in the Foundational block where the teacher candidates create and write lessons for effective teaching. Teacher candidates are required to develop lesson plans. The specific format can be adapted, but should always include the objectives (TEKS), procedures, materials/resources, and assessment. Student engagement is a key element in a good lesson with a goal of student learning/success is the ultimate goal.

Candidates must form an assessment strategy to determine the extent to which students are able to master learning of objectives. Candidates also describe the instructional delivery method addressing the following step-by-step procedures:

1. Questions and concerns listed in the directions given to you by your instructor
2. Setting purposes ("Today we will be...I want you to...because you will...")
3. Method(s) for engaging students in the lesson
4. Any questions asked during the lesson should be in **bold**
5. Higher order thinking reflected in questions
6. Instructional Strategies: Modeling, Discussion, "Hands-on", Inquiry, etc.
7. Grouping: when and how
8. Instruction that addresses learners' needs (ELLs, Special Education, 504, Gifted, Struggling Learner)
9. Closure

After teaching the lesson, candidates are then required to reflect on the lesson delivery, appropriateness of instructional strategies, impact for future planning, and opportunities for collaboration with mentor teacher. The skill acquired during lesson planning provides the foundation and are also built upon for unit planning and other key assessments

Unit Planning

Unit Plan is a WCOE key assessment. Teacher candidate's ability to demonstrate the ability to plan, assess, and implement instruction continues in the professional block with the Unit plan assessment. The unit plan assessment is a modified form of Midwestern Impact on Student Learning (MISL) that requires teacher candidates to plan a unit of teaching. Candidates are required to determine a set of multiple learning objectives aligned to state content standards Texas Essential Knowledge and Skills (TEKS) appropriate to the lesson(s) the candidate is preparing.

Extra Credit

Extra Credit opportunity will be given and will depend on the flow and needs of the class.

Late Work

25% off per day per assignment (including Saturday and Sunday). So, if the assignment is for 100 points, you can make a maximum score of 75 after one day, 50 after two days, 25 after three days, and zero after 4 days if all your answers are correct. **There is NO late work on discussion boards or quizzes!** All this is non-negotiable!!! If there are any issues/confusions, contact me **BEFORE** the assignment is due (at least 48 to 24 hours before the assignment is due). Time shown as on D2L or email be used.

NOTE: *Computer or D2L issues do not provide an excuse.* Extensive use of the MSU D2L program is a part of this course. Each student is expected to be familiar with D2L as it provides a primary source of communication regarding

assignments, examination materials, and general course information. You can log into D2L through the MSU Homepage. If you experience difficulties, please contact the technicians listed for the program or contact your instructor. *Do not wait till the last minute to submit the assignment.* Delays or sending through email will be counted late!

Make Up Work/Tests

There will be no make-up or resubmissions allowed on assignments, quizzes, discussion boards, or any other activity in class.

Important Dates

Last day for term schedule changes: Aug 24th- 26th

Deadline to file for graduation: Sept 28th for students graduating in December and Oct 8th for those graduating in May

Last Day to drop with a grade of "W:" Dec 4th, 2020

Refer to: [Drops, Withdrawals & Void](#)

Desire-to-Learn (D2L)

Extensive use of the MSU D2L program and Pearson My Lab is a part of this course. Each student is expected to be familiar with this program as it provides a primary source of communication regarding assignments, examination materials, and general course information. You can log into [D2L](#) through the MSU Homepage and use access code for Pearson My Lab.

Change of Schedule

A student dropping a course (but not withdrawing from the University) within the first 12 class days of a regular semester or the first four class days of a summer semester is eligible for a 100% refund of applicable tuition and fees. Dates are published in the Schedule of Classes each semester.

Refund and Repayment Policy

A student who withdraws or is administratively withdrawn from Midwestern State University (MSU) may be eligible to receive a refund for all or a portion of the tuition, fees and room/board charges that were paid to MSU for the semester. HOWEVER, if the student received financial aid (federal/state/institutional grants, loans and/or scholarships), all or a portion of the refund may be returned to the financial aid programs. As described below, two formulas (federal and state) exist in determining the amount of the refund.

Services for Students with Disabilities

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable accommodations to ensure equal opportunity for qualified persons with disabilities to participate in all educational, social, and recreational programs and activities. After notification of acceptance, students requiring accommodations should make application for such assistance through Disability

Support Services, located in the Clark Student Center, Room 168, (940) 397-4140. Current documentation of a disability will be required in order to provide appropriate services, and each request will be individually reviewed. For more details, please go to [Disability Support Services](#).

College Policies

Campus Carry Rules/Policies

Refer to: [Campus Carry Rules and Policies](#)

Smoking/Tobacco Policy

College policy strictly prohibits the use of tobacco products in any building owned or operated by WATC. Adult students may smoke only in the outside designated-smoking areas at each location.

Alcohol and Drug Policy

To comply with the Drug Free Schools and Communities Act of 1989 and subsequent amendments, students and employees of Midwestern State are informed that strictly enforced policies are in place which prohibits the unlawful possession, use or distribution of any illicit drugs, including alcohol, on university property or as part of any university-sponsored activity. Students and employees are also subject to all applicable legal sanctions under local, state and federal law for any offenses involving illicit drugs on University property or at University-sponsored activities.

Grade Appeal Process

Update as needed. Students who wish to appeal a grade should consult the Midwestern State University [MSU Catalog](#)

Notice

Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor.

Course Schedule

Disclaimer Notice: Changes in the course syllabus, procedure, assignments, and schedule may be made at the discretion of the instructor to meet the needs of the class appropriately.

All assignments are due on Sunday by 11:30pm

Please see attached document for a detailed course schedule

References:

Ball, D. & Bass, H. (2003). Making mathematics reasonable in school' in WG Martin and D Shifter (eds), *A research companion to principles and standards for school mathematics*, National Council of Teachers of Mathematics, Reston, Virginia, pp. 27-44.

Carpenter, T. P., Fennema, E., Franke, M. L., Levi, L., & Empson, S. B. (2015). *Children's mathematics: Cognitively guided instruction* (2nd ed.). Portsmouth, NH: Heinemann.

Drake, C., Land, T.J., Franke, N., Johnson, J., & Sweeney, M.B. (in preparation). Learning to Teach Elementary Mathematics for Understanding.

Fuson, K. C. (2003). Toward computational fluency in multidigit multiplication and division. *Teaching Children Mathematics*, 9(6), 300-305.

Jacobs, V. R., Lamb, L. L., & Philipp, R. A. (2010). Professional noticing of children's mathematical thinking. *Journal for Research in Mathematics Education*, 41(2), 169-202.

Jacobs, V. R. & Spangler, D. A (2017). Research on core practices in K–12 mathematics teaching', In J Cai (ed.), *Compendium for research in mathematics education*, National Council of Teachers of Mathematics, Reston, Virginia.

Kling, G., & Bay-Williams, J. M. (2015). Three steps to mastering multiplication facts. *Teaching Children Mathematics*, 21(9), 548-559.

National Council of Teachers of Mathematics (n.d.) *The case of Mr. Harris and the band concert*.

Teuscher, D, Switzer, JM & Morwood, T, 2016, 'Unpacking the practice of probing student thinking', *Mathematics Teacher Educator*, vol. 5, no. 1, pp. 47-64.

Van de Walle, J. A., Karp, K. S., & Bay-Williams, J. M. (2010). *Elementary and middle school mathematics: Teaching developmentally*. Boston: Allyn & Bacon (10th edition)

**Wish you all the very best.
Happy to have you'll in class!!!**

Appendix A: Standards/Competencies

WCOE Standards

The outcomes for graduates of professional programs are based upon knowledge, skills, and dispositions in the following elements:

- **Learner Development** - understand how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and design and implements developmentally appropriate and challenging learning experiences.
- **Learning Differences** - understand individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.
- **Learning Environment** - work with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.
- **Content Knowledge** - understand the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make the discipline accessible and meaningful for learners to assure mastery of the content.
- **Application of Content** - understand how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.
- **Assessment** - understand and use multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.
- **Planning for Instruction** - plan instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.
- **Instructional Strategies** - understand and use a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.
- **Professional Learning and Ethical Practice** - engage in ongoing professional learning and use evidence to continually evaluate his or her practice, particularly the effects of his or her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.
- **Leadership and Collaboration** - seek appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

Competencies

Competency 001 (Mathematics Instruction): The teacher understands how students learn mathematical skills and uses that knowledge to plan, organize and implement instruction and assess learning.

Competency 002 (Number Concepts and Operations): The teacher understands concepts related to numbers, operations and algorithms and the properties of numbers.

Competency 003 (Patterns and Algebra): The teacher understands concepts related to patterns, relations, functions and algebraic reasoning

Competency 004 (Geometry and Measurement): The teacher understands concepts and principles of geometry and measurement.

Competency 005 (Probability and Statistics): The teacher understands concepts related to probability and statistics and their applications.

Competency 006 (Mathematical Processes): The teacher understands mathematical processes and knows how to reason mathematically, solve mathematical problems and make mathematical connections within and outside of mathematics.

Other Expectations

As a part of your preparation for becoming a teacher, you are expected to begin acting in a professional manner – starting today. This includes, but is not limited to:

Internship Experience – Throughout your internship experience, ask your mentor teacher to provide you with constructive feedback regarding your classroom presence, interactions with students and lessons that you present to the students. Use this information to make necessary improvements during the time that remains in the schedule. Always conduct yourself in a professional manner.

Participation – It is not enough to just “show up”. In other words, you cannot just sit there and breathe. You need to be prepared to discuss the readings that are assigned, contribute appropriately and encourage the participation of your peers.

Preparation – Complete all assignments on time. Written assignments (whether submitted online or in class) will be discounted by 25% for each late day. Complete readings assigned prior to class in order to be able to participate in class discussions and activities.

Attitude – Demonstrate the following dispositions that are essential for learning:

- Curiosity (ask questions, look for additional answers, probe, reflect)
- Flexibility (take alternate points of view, be open-minded)
- Organization (plan ahead – literally, GET A PLANNER!)
- Patience (take time to reason, be persistent in efforts)
- Risk-taking (try things beyond your current repertoire)
- Passion (invest in ideas, processes, products, and most of all – other people)

Be aware that your attitude is conveyed to others by body language, conversation, neatness, completeness of work, willingness to assist and contribute and many other ways. A sense of humor and the ability to be flexible are crucial – not just in this class but from now on – that is the nature of the classroom.

Respect – Be considerate of others. Do not talk while others are talking; do not use foul language; behave in an ethical manner. This is particularly important considering our classroom location - we are guests in the Wichita Falls school district and should behave as such.

Professional Development – Remember that teaching requires a commitment to continual learning. You will be asked to complete several “chores” as the semester rolls along and the points earned for dispositions are affected by those “chores”. Timely completion of tasks (or “chores”) is an indication of your “fitness” to this profession.