MISSISSIPPI STATE UNIVERSITY™
COLLEGE OF EDUCATION

Department of Curriculum, Instruction, and Special Education Course Syllabus

EDE 4123 Teaching Elementary and Middle Level Mathematics

Credit Hours: Three (3) Credit Hours

Method of Instruction: B = Lecture/Lab

Catalog Description: Two hours lecture. Two hours laboratory. (Pre-Requisites: All Professional Education courses, except EDE 3443; 12 Hours of MA courses; Co-Requisites: EDE 4113, EDE 4143, & RDG 4133) Field based. The content and process of mathematics instruction for elementary and middle grades students including teaching principles, mathematical tools, and assessment of student progress.

College of Education Conceptual Framework

The faculty in the College of Education at Mississippi State University are committed to assuring the success of students and graduates by providing learning opportunities that are continually improved as society, schools, and technology change. The organizing theme for the conceptual framework for the College of Education at Mississippi State University is educational professionals - dedicated to continual improvement of all students' educational experiences. The beliefs that guide program development center on the tenets of knowledge, collaboration, reflection, and practice. For additional information, please visit https://www.educ.msstate.edu/about/framework/.

Course Objectives

Upon completion on the course, the student will be able to

1. Apply national and state standards of mathematics curriculum and instruction in the elementary and middle grades which have been influenced by national, state, and local professional organizations such as the National Council of Teachers of Mathematics. [INTASC 4; CAEP 3.c; CFPO 1; CCRS]
2. Apply the goals and standards of mathematics instruction in the elementary and middle grades in terms of how the goals and standards have been influenced by social, cultural and global concerns. [INTASC 4, 7; CAEP 3.c; CFPO 1; CRT 5.1]
3. Explain theories of child development and learning and the implications of these in the teaching and learning of mathematics. [INTASC 1; CAEP 1.a, 1.b, 2.b; CFPO 2]
4. Implement mathematics concepts, generalizations, and methods of instruction that are developmentally appropriate for diverse elementary and middles school students. [INTASC 1, 2, 3, 7; CAEP 1.a, 2.b, 3.b, 3.c, 3.d, 4.c, 4.e; CFPO 2, 5, 7; CRT 1.1; CCRS]
5. Explain current educational research and curriculum issues in the teaching and learning of mathematics. [INTASC 4, 8, 9; CAEP 5.b; CFPO 2, 5]

6. Use originally developed and previously published assessment and evaluation tools that meet the assessment principle set forth by the National Council of Teachers of Mathematics to measure students' understanding, needs, and learning in mathematics. [INTASC 6; CAEP 2.b, 3.a, 3.b; 4.d CFPO 7]
7. Implement integrated teaching and learning experiences with emphasis on writing and reading in mathematics. [INTASC 1, 4, 8, 7; CAEP 1.a, 1.b, 2.b, 3.b, 3.c, 3.d, 4.c, 4.e; CFPO 3, 5, 7]
8. Use appropriate manipulatives and other tools to teach mathematics in ways that promote students' learning of number, number relationships, geometry, algebra, measurement, data analysis, and problem-solving. [INTASC 8; CAEP 1.a, 1.b, 2.b, 3.c, 3.d, 4.a; CFPO 10; CRT 4.1, 4.2, 8.1]
9. Critique various technological resources, such as the Internet, dynamic math software and calculators, that can be used in elementary and middle school mathematics instruction. [INTASC 4, 8, 10; CAEP 2.b; CFPO 1, 3, 4, 5, 6, 7, 9, 10]
10. Collaborate with peers and classroom mentor teachers in school settings to plan, implement, and assess mathematics teaching and learning. [INTASC 1, 4, 9, 10; CAEP 1.a, 1.b, 2.b, 3.b, 3.c, 3.d, 4.c, 4.e; CFPO 1, 9; CRT 11.1, 13.1; CCRS]
11. Evaluate one's teaching performance in mathematics through meaningful, professional reflection. [INTASC 4, 9; CAEP 5.b; CFPO 1]

Detailed Course Outline/Topics Covered in the Course

1. Module 1: Teaching Number & Operations (19 hours)
   a. Early Number Concepts, Cardinality & Ordinality (2 hours)
   b. Meanings of the Operations (2 hours)
   c. Basic Facts for the 4 Operations (2 hours)
   d. Place Value Concepts (2 hours)
   e. Operations on Multi-digit Numbers (2 hours)
   f. Fraction Concepts (3 hours)
   g. Operations on Fractions (2 hours)
   h. Operations with Decimals and Percentages (2 hours)
   i. Ratios & Proportional Reasoning (2 hours)
2. Module 2: Teaching Measurement (2 hours)
3. Module 3: Teaching Geometry (3 hours)
4. Module 4: Teaching Algebra (3 hours)
5. Module 5: Teaching Statistics & Data Analysis (3 hours)

Required Texts/Course Materials

Textbook:

Van de Walle, John A., Karp, K. S. & Bay-Williams, J. M. (2019). *Elementary and Middle School Mathematics: Teaching Developmentally 10th edition).* Pearson Education Inc. (Hard Copy of text with name written on cover) must be provided to instructor - see Tentative Course Calendar.

Other:

Common Core State Standards for Mathematics PDF
Student Membership in NCTM (National Council of Mathematics)

Description of Instruction

B = Lecture/Lab. A variety of methods of instruction will be employed. This class is designed to prepare candidates to teach mathematics in the K-6 classroom; therefore, the instructor will model teaching techniques appropriate for the elementary mathematics classroom. Specific instructional methods will

include interactive lecture, demonstration lessons, class discussion, computer laboratory work, and candidate presentations.

Mississippi State University Honor Code

"As a Mississippi State University student, I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do."

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Academic dishonesty will not be tolerated and will be dealt with according to MSU policy. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code.

For additional information visit: http://students.msstate.edu/honorcode.

Technology

- Technology will be used in EDE 4123 through *Watermark* (a course website), various mathematics education websites and virtual manipulatives, and Microsoft productivity software (Word, Power Point, etc.). Candidates are expected to have necessary technology skills to efficiently and effectively use these technological resources. Candidates will be required to complete all assignments using productivity software.
- Candidates must have on-going access to a computer with high speed internet access via DSL or equivalent broadband connectivity option (traditional dial-up Internet services do not provide adequate support to the technologies used within the course).
- Download or upgrade to the latest version of Adobe Acrobat Reader; Adobe Media; Adobe Flash; Shockwave Flash; Java; and Quicktime Player.
- Frequent access to a digital camera. You will need to be able to take digital pictures of the results of most of the class activities then submit them with the appropriate Canvas Assignments as either .jpeg files or digital pictures embedded in a Word document that has been converted to a PDF so they can be viewed and evaluated as part of course participation.
- Optional: It may be helpful for you download a PDF converter app to your smartphone (if available to you). These apps allow you to take pictures of your documents and converts them to a PDF file that you can email to yourself and upload to your computer and then download to MyCourses.
- Candidates must have an active *Watermark* account. This course requires a subscription to *Watermark*, an online portfolio and storage system for teacher candidates that is used as a repository for course assignments, assessments, and field experiences. Data collected from the database is used for accreditation purposes and program improvements. Assignments required in *Watermark* must be submitted for successful completion of the course. If you do not have a subscription, please call the OCFBI office to obtain a key code.

Diversity

Diversity, within the context of the elementary mathematics classroom, will be addressed throughout the course. It will be discussed as part of the Equity Principal and in terms of appropriate mathematics instructional and assessment strategies for each mathematics strand (Number & Operations, Algebra, Geometry, Measurement, and Data Analysis & Probability) to meet the needs of diverse learners.

Accommodations for Students with Disabilities

In accordance with section 504 of the 1973 Rehabilitation Act and the Americans with Disabilities Act, Mississippi State University reasonably accommodates students who demonstrate, through appropriate documentation, a qualified disability. Students with disabilities in need of accommodations to meet the expectations of this course are encouraged to bring this need to the attention of the instructor and should register with the Office of Student Support Services as soon as possible. The Office of Student & Disability Support Services is located in 01 Montgomery Hall, (662) 325-3335 (phone), and http://www.sss.msstate.edu (web address).

Field Component

EDE 4123 includes a field-based practicum that immediately precedes the internship semester. The purpose of the field experience is for teacher candidates to learn to recognize the stages of physical growth and cognitive development of elementary/middle school students by participating in planning, managing, and evaluation of elementary/middle school students through active engagement in research-based learning experiences. Teacher candidates are assigned to one elementary/middle school classroom to carry out basic teaching responsibilities under the supervision of MSU Senior Methods Block Faculty and Classroom Mentor Teachers. In terms of expected outcomes, the senior methods block field experience will provide teacher candidates with opportunities to:

1. Assess personal/social suitability for teaching.
2. Experience the roles of a professional teacher while working primarily with small groups of students.
3. Observe the social and emotional growth of students as they participate in developmentally appropriate activities across the disciplines.
4. Plan structured opportunities for learning using a research-based curriculum to accommodate students at various stages of physical and intellectual development.
5. Apply principles from the knowledge bases of the professional program in order to identify the influence of physical and emotional maturity on the cognitive development of students in a social setting.
6. Assess the progress of students as they engage in the learning process through formative and summative means of evaluation.
7. Develop skills in diagnosing and solving psychosocial problems of students at various levels of cognitive development.
8. Communicate about and discuss all phases of the experience with Classroom Mentor Teachers and Senior Methods Block Faculty.
9. Receive feedback from structured observations, including conferencing and suggestions for improvement, from Classroom Mentor Teacher and MSU Senior Methods Block Faculty.
10. Practice the knowledge, dispositions and performances of beginning teaching required by the Core Principles of the Interstate New Teacher Assessment and Support Consortium.
11. Become an actualized professional teacher through self-evaluation and reflection about teaching.

Required Materials

- Senior Methods Block Field Experience Handbook & Calendar
- 3 Mathematics Structured Observation Forms
- Mathematics Field Experience Time Sheet (signed by you and your Mentor Teacher)
- MSU College of Education Teacher Education Professional Dispositions Document
- Mississippi Educator Code of Ethics and Standards of Conduct Document

Required Activities for EDE 412:

- Completion of 18 hours of field experience in the assigned mathematics classroom, as prescribed on the Senior Methods Block Field Experience Calendar, to occur over the course of

the eleven weeks of the field experience (the equivalent of 2 hours of math per week for 8 of the 11 weeks and 1 hour of math on two Fridays).

- Completion of 6 hours of "Other" elementary teacher experiences; e.g. duty, recess, PE, art, music, lunch, etc. One of these hours must be spent with elementary students in a "special subject" – PE, art or music.
- Completion of a Mathematics Field Experience Time Sheet submitted to your EDE 4123 instructor in hard copy, signed and dated each week by you and your Mentor Teacher.
- Participation in field experience activities at the assigned field experience classroom on Tuesdays and Thursdays from 8:00 to 2:30, at a minimum; during this time, at least 2 hours each week must be engaged in mathematics experiences; participation in field experience activities at the assigned field experience classroom on various Fridays (see Senior Methods Block Field Experience Calendar).
- Completion of 5 hours of math seminars and 1 hour of general seminar for a total of 30 hours of Lab Hours for EDE 4123 (See Tentative Course Calendar).
- Completion of 3 structured observations: Questioning, Content Delivery, Communication
- Implementation of 1 whole class mathematics lesson, assuming all responsibility for the teaching of this lesson; teaching may only occur after approval of the lesson plan by the EDE 4123 instructor
- When not teaching the whole class lesson, you are to assist the mathematics mentor teacher by working one-on-one or with small groups of students or by assessing student performance each Tuesday or Thursday over the course of the 10-week Field Experience.
- Completion of a Final Reflection submitted on *Watermark*. Failure to submit a final reflection through *Watermark* by the last day of classes will result in a deduction of 15 points from the Professionalism and Attendance points of the field experience.
- Completion of 2 daily reflections (DARs – see protocol that follows) for a math lesson where specific math content was taught; one during the first 5 weeks of the field experience and one during the second 5 weeks of the field experience. Each 2-page DAR should describe, in detail, your interactions with students and the impact of teaching on student achievement in mathematics. The focus of each DAR should be on teaching and learning mathematics. While various aspects of classroom management can be included, the focus should not be classroom management. DARs should not be completed for days for which only assessment of content is occurring (i.e. Test Fridays, etc.); DARs should be completed only for days during which content-specific instruction is experienced. The date (a single day) of the experiences being reflected upon should be included in the header.

  D.A. R. Reflections: Describe, Analyze, Reflect

  - Describe – Describe the instruction you see. Discuss the instructional practice observed and the student responses to the instruction practice taking place. (Should be the shortest part.)
  - Analyze – Make at least 3 connections between what you experienced and current research findings that you were taught in EDE 3523 and/or EDE 4123; Remember by definition a "connection" connects two "things"; in this case, one of the "things" occurs in the field experience classroom and the other "thing" occurred on campus in an elementary education required course.
  - Reflect – How does your experience impact you professionally? What did you learn from this experience?
- Completion and submission of a Mathematics Field Experience Folder which includes a TIAI for the mathematics lesson taught and a Dispositions Form completed by the assigned mathematics mentor teacher and a mathematics field experience timesheet documenting hours of field

experience spent with the assigned mathematics mentor teacher (see Senior Methods Block Field Experience Calendar for deadline)

Performance Requirement

You must obtain a minimum of 70 points out of the 100 possible field experience points to pass the Lab component of EDE 4123, which includes attendance in five EDE 4123 math-specific seminar hours (See Tentative Course Calendar).

Evaluation of Student Progress

Student Activities/Assessments

Mathematics Content Assignments	**900 points**
Individual Textbook Ownership	20 pts
Proof of Student Membership in NCTM	20 pts
Video Reflections (3 @ 5 pts each)	15 pts
NCTM Article Papers (2 @ 10 pts each)	20 pts
Non-Routine Problem Solving (4 @ 4 pts each)	16 pts
Problem Solving Lesson Plan with Manipulatives	95 pts
Reflection for Problem Solving Lesson Plan	15 pts
Assessment Project	45 pts
Chapter Question Responses (14 @ 6 pts each)	84 pts
Participation and Daily Chapter Activities	20 pts
Professionalism & Participation in Seminars	50 pts
Chapter Tests (3 @ 100 pts)	300 pts
Final Exam	100 pts
Mathematics Field Experience	100 pts
Total Points	**1000 pts**

Evaluation of Math Field Experience*: 100 points (Determined by assigned University Supervisor)*

3 Math Structured Observations (4 pts each): 12 pts
Dispositions: 14 pts
2 Math DARs: 8 pts
Professionalism: 15 pts
Time Sheet & Attendance: 22 pts
Math TIAI: 36 pts (completed by Classroom Mentor Teacher)

Overview of Student Activities/Assessments

Individual Orientation Conference Call: Each teacher candidate will be required to participate in a brief orientation conference call with the instructor to go over general information about the course, how it is taught, how to be successful in the course, and the expectations for completing the participation activities and the assignments. (Objective 11)

Proof of NCTM Student Membership: Failure to provide proof of individual NCTM student membership by the deadline will result in 0 points for the Membership in NCTM assignment; 0 points for the NCTM Article Papers and the Problem-Solving Lesson Plan with Manipulatives will be earned until proof of membership is provided. (Objectives 1, 4, 5 6)

Video Reflections: On the designated due dates, you are to submit a minimum 1 page, 2 paragraph reflection of each assigned video which addresses (1) what you learned about specific mathematics content (NOT content instruction) by watching the video and (2) what you learned about specific mathematics pedagogy (content instruction) by watching the video. All video links will be provided to you via daily agendas at least one week prior to the deadline. Each video reflection should be named and numbered Video Reflection #1 to Video Reflection #3, as indicated on the daily agenda. (Objectives 2, 3, 4, 5, 8, 9)

Article Papers: You will be assigned two NCTM, research-based journal articles for which you will read and write a report. Each detailed report should be a minimum of 3 complete pages, excluding any header information. Within the report, you should clearly address the following: (1) a minimum 2-page explanation of all components of the article in the order in which they appear in the article, including but not limited to, an identification of the key points/instructional strategies and at least 3 student-invented strategies (using the student's name when available) addressed in the article, (2) what you learned by reading the article and how it will impact your future as a teacher, and (3) one specific question related to the math content presented in the article you would ask the author(s) if you could speak to the author(s) (questions for the authors should not pertain to differentiation or assessment and should directly relate to the mathematical pedagogy and content of the article). (Objectives 2, 3, 4, 5, 8)

Non-Routine Problem Solving: You will solve four non-routine problems to demonstrate your proficiency at doing the 5 NCTM Process Standards and the 8 Mathematical Practices. For each non-routine problem, your submission must contain (1) all computations, any "mental computations," and the solution to that problem, including all work which led to the solution; (2) a paragraph explanation of how you derived your solution in complete sentences, and (3) a paragraph explanation of why you did what you did to solve the problem in complete sentences. The "why" should not be "because I'm a visual learner" or "because this is how I was taught"; the "why" should explain "why" you did each "mathematical step" in your solution process. Accuracy, use of precise mathematical language, and appropriate logical reasoning will be assessed in determining the number of points awarded for each non-routine problem. (Objectives 3, 7, 8)

Problem Solving Lesson Plan with Manipulatives (Hardcopy Lesson Plan with all handouts/recording sheets (3), problem/activity task cards (3), assessments, & answer keys with scoring: You will construct a lesson plan that teaches/expands an important concept in mathematics using a grade appropriate NCTM article lesson either from *Teaching Children Mathematics* – using a *2 part Problem Solvers* activity (found in two issues) or from *Mathematics Teaching in the Middle School* – using a *Mathematical Explorations* activity or a *Cartoon Corner* activity, along with other resources found on the NCTM web-site to address remediation and enrichment. This lesson plan will be implemented during the field experience portion of the course. The topic should be selected in collaboration with the assigned mentor teacher. Once this lesson is implemented, you must submit a reflection of that teaching on *Watermark*. The reflection prompts can be found on *Watermark*. When the reflection is submitted on *Watermark*, the revised lesson plan and all components of this assignment should also be uploaded to *Watermark*, along with student work samples for 2 above-level students, 2 on-level students, and 2 under-performing students. This is your professional portfolio artifact for this course. Implementation cannot occur until your instructor has approved of your lesson plan in writing. Specific expectations and requirements of this assignment, along with the rubric that will be used to evaluate this assignment will be provided to you during Math Seminar #1; See Tentative Course Calendar. (Objectives 1, 2, 4, 7, 8, 10, 11)

Assessment Project: Given a specific NCTM Mathematics Content Strand and your assigned field experience grade level, you will select an appropriate CCSSM Content Standard for which you will write 3 logically sequenced, daily instructional objectives, aligned with the CCSSM Content Standard (as previously experienced in EDE 3523). Then you will construct a traditional, summative assessment to evaluate attainment of those 3 objectives. The traditional summative assessment must contain exactly 5 questions/items per objective, must contain at least 3 different types of questions (as described in EDE 3523), and must be "student-friendly" in appearance and in wording. All test items are to be in relevant contexts. The entire formal assessment must be created in Word and technology generated. Specific expectations and requirements of this assignment, along with the rubric that will be used to evaluate this assignment will be provided to you during Math Seminar #3; See Tentative Course Calendar. (Objectives 6, 7, 10, 11)

Chapter Question Responses (due within each module throughout semester): For each assigned chapter, you will answer questions focused on key aspects of the chapter. Questions will be provided at

least one week in advance through Power Point slides. Responses to chapter questions should be thorough and written using mathematically precise language. (Objectives 1, 2, 3, 4, 5, 6, 8)
Participation and Daily Chapter Activities (due within each module throughout semester): Various in-class & out-of-class activities based on the contents of the chapters will be completed throughout the semester. In order to successfully complete EDE 4123, full participation and accuracy of content knowledge must be demonstrated (specifically, activities concerning basic facts, story problem structures, operations on whole numbers, fraction concepts and comparing fractions, operations on fractions, solving proportions, growing patterns/functions, spatial visualization, and deriving area formulas must be successfully completed with 100% accuracy by the end of the semester). Information regarding the content of each chapter provided through PowerPoint Presentations will be discussed each class meeting. It is the candidate's responsibility to read each chapter prior to coming to class and come to class prepared to ask specific questions concerning what was read. Class time will be used primarily for demonstration lessons and engaging in research-based activities appropriate for K-6 classroom use, as well as follow-up discussions. (Objectives 1, 2, 3, 4, 5, 6, 8)
Participation in Synchronous Chats: You must attend and participate in five hours of mathematics seminars. During seminars, discussions and activities will be completed that relate to field experiences and related mathematics pedagogical content knowledge. (Objectives 1, 2, 3, 4, 5, 6, 8)
Chapter Tests: All tests are announced and will assess understanding of appropriate grades K-6 mathematics pedagogy as defined by chapter readings, power points, class discussions, and class activities. Chapter tests are cumulative, although emphasis is given to specific sets of chapters. (Objectives 1, 2, 3, 4, 5, 7, 8, 9)
Final Exam: The cumulative final exam will assess your understanding of appropriate grades K-6 mathematics pedagogy as defined by chapter readings, power points, class discussions, and class activities discussed and experienced throughout the semester, as well as what was learned through the field experience. (Objectives 1, 2, 3, 4, 5, 7, 8, 9)

Grading Scale
EDE 4123 uses a grading scale of 1000 points. The points needed for each letter grade are detailed below.
1000 – 900 = A
899 – 800 = B
799 – 700 = C
699 – 600 = D
599 & below = F

Attendance Policy
In accordance with university policy (AOP 12.09 – Classroom Attendance and Reporting Absences), students are expected to attend all classes. Thus, you are required to attend all EDE 4123 class meetings and field experience days, including all math seminars. You are granted one absence for an emergency situation (personal illnesses and other related situations) in EDE 4123 without providing documentation. In the case of illness or a death in the family on a field experience day, you must contact the mentor teacher, the MSU Senior Methods Block supervisor, and field experience partner as early as possible, but no later than 7:30 a.m. on the day of the absence. For each subsequent emergency absence, you must submit appropriate authoritative documentation to the instructor upon your return to campus for approval for an excused absence. Each non-emergency absence will result in a 25-point deduction from your overall point total for EDE 4123. In order for an absence to be considered excused, proper documentation must be submitted to the instructor upon your return to campus. If you are absent from EDE 4123 for an extended period of time, your circumstances will be considered on an individual basis after returning to class and you will be required to meet with Elementary Education faculty to discuss your future in EDE 4123 for the current semester. Additionally, you should be punctual to class and field

experiences. If you are tardy to class, a 10-point deduction from your overall point total will result. A tardy occurs when you arrive to class up to 30 minutes late. Beyond 30 minutes, constitutes an absence. You should contact the instructor in advance (prior to the start of class that day) if a test will be missed. A make-up test will only be approved in documented emergency situations or under extreme circumstances. If you are absent from a "general" seminar, a 15-point deduction from your overall point total will result in each of the four senior methods block courses. Any field experience or seminar hours missed must be made up, regardless of the reason for the absence.

Title IX Policy

MSU is committed to complying with Title IX, a federal policy that prohibits discrimination, including violence and harassment, based on sex. This means that MSU's educational programs and activities must be free from sex discrimination, sexual harassment, and other forms of sexual misconduct. If you or someone you know has experienced sex discrimination, sexual violence and/or harassment by any member of the University community, you are encouraged to report the conduct to MSU's Director of Title IX IEEO Programs at 325-8124or by e-mail to titleix@msstate.edu. Additional resources are available at http://www.msstate.edu/web/security/title9-12.pdf or at http://students.msstate.edu/sexualmisconduct/.

University Safety Statement

Mississippi State University values the safety of all campus community members. Students are encouraged to register for Maroon Alert texts and to download the Everbridge App. Visit the Personal Information section in Banner on your mystate portal to register. To report suspicious activity or to request a courtesy escort via Safe Walk, call University Police at 662-325-2121, or in case of emergency, call 911. For more information regarding safety and to view available training resources, including helpful videos, visit ready.msstate.edu.

Mississippi Educator Code of Ethics

The code shall apply to all persons licensed according to the rules established by the Mississippi State Board of Education and protects the health, safety and general welfare of students and educators. Ethical conduct is any conduct which promotes the health, safety, welfare, discipline and morals of students and colleagues. Unethical conduct is any conduct that impairs the license holder's ability to function in his/her employment position or a pattern of behavior that is detrimental to the health, safety, welfare, discipline, or morals of students and colleagues. Any educator or administrator license may be revoked or suspended for engaging in unethical conduct relating to an educator/student relationship (Standard 4). Additional information on the Mississippi Educator Code of Ethics 10 Standards is available at https://www.mdek12.org/sites/default/files/documents/code-of-ethics_final.pdf.

Candidates enrolled in EDE 4123 will be provided with a copy of the Mississippi Educator Code of Ethics during one of two general field experience seminars. Senior Methods Block faculty will discuss each of the 10 Standards of the code with candidates prior to the start of any field experiences. Candidates will be expected and required to adhere to the 10 Standards of the code throughout the duration of the Senior Method Block field experience.

Mississippi College and Career-Ready Standards

Content standards outline the skills and knowledge expected of students from grade to grade and subject to subject. In addition to the Mississippi College and Career-Readiness Standards, the Mississippi Department of Education has developed a wide variety of training materials for educators and administrators across the state.

Candidates enrolled in EDE 4123 develop a deep conceptual understanding of the critical concepts, principles, and practices of mathematics content and appropriate pedagogy through in-class content-specific activities, assigned course readings, and field experience assignments which address the Mississippi College and Career-Ready Standards. During field experiences, candidates apply what they have learned to advance the learning of their elementary students with regards to the college and career-readiness standards.

Bibliography

Artzt, A. & Armour-Thomas, E. (2002). *Becoming a reflective mathematics teacher: a guide for observations and self-assessment*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Carpenter, T., Fennema, E., Franke, M, Levi, L., & Empson, S. (1999). *Children's mathematics: cognitively guided instruction*. Portsmouth, NH: Heinemann.

Copley, J. (2000). *The young child and mathematics*. Washington DC: National Association of the Education of Young Children.

Heibert, J., Carpenter, T., Fennema, E., Fuson, K., Wearne, D., Murray, H., et. al. (1997). *Making sense: teaching and learning mathematics with understanding*. Portsmouth, NH: Heinemann.

Humphreys, C. & Parker, R. (2015). *Making number talks matter: Developing mathematical practices and deepening understanding, grades 4 – 10*. Portland, ME: Stenhouse Publishers.

Mokros, J., Russell, S. & Economopoulos, K. (1995). *Beyond arithmetic changing mathematics in the elementary classroom*. White Plains, NY: Dale Seymour Publications.

Murray, M. (2004). *Teaching mathematics vocabulary in context*. Portsmouth, NH: Heinemann.

National Council of Teachers of Mathematics (2000). *A research companion to principles and standards for school mathematics*. Reston, VA: Author.

National Council of Teachers of Mathematics (2000). *Mathematics assessment: a practical handbook, K-12 series*. Reston, VA: Author.

National Council of Teachers of Mathematics (2000). *Principles and standards for school mathematics*. Reston, VA: Author.

National Council of Teachers of Mathematics (2014). *Principles to actions: Ensuring mathematical success for all*. Reston, VA: Author.

National Council of Teachers of Mathematics (2017). *Taking action: Implementing effective mathematics teaching practices*. Reston, VA: Author.

Ridener, B. & Fritzer, P. (2004). *Mathematics content for elementary and middle school teachers*. Boston: Pearson Education, Inc.

Robichaux, R. R. & Rodrigue, P. R. (2011). Dine on rich functional examples. *Mathematics Teaching in the Middle School, 16*(6), 368-373.

Robichaux, R. R. & Rodrigue, P. R. (2010). Properties of polygons: Discoveries of what's possible and impossible. *Teaching Children Mathematics, 16*(9), 524-531.

Sherman, H., Richardson, L. & Yard, G. (2005). *Teaching children who struggle with mathematics: a systematic approach to analysis and correction*. Upper Saddle River, NJ: Pearson, Merrill Prentice Hall.

Thiessen, D., Matthias, M., & Smith, J. (2004). *The wonderful world of mathematics*. Reston, VA: The National Council of Teachers of Mathematics.