Department of Elementary Education  
MLG 424.506 Mathematics in the Middle Grades  
Fall 2019  

**Office:** ECRC 209-J  
**Credits:** 2 semester credits  
**Office Phone:** (936) 468-1697  
**Email:** montgomems@sfasu.edu  
**Office Hours:** Online – M 1:00pm – 3:00pm; T/W 1:00pm – 2:30pm; Additional hours by appointment

I. Course Description:  
Current trends, practices, and research pertaining to the teaching of mathematics in the middle school.

II. Course Justification  
MLG 424, “Mathematics in the Middle Grades” (2 credits; fully online) spans 15 weeks. The course contains extensive written content that includes the same information students in a face-to-face lecture course receive, requiring students to engage the online modules for at least two hours per week. Students are expected to read and watch module materials each week, read one text and write and engage in discussion posts with peers about the content, design an online mathematics problem-solving Hyperdoc project that engages students in how mathematics is applied to real careers, and take a written final examination. These activities average at a minimum 2 hours of work each week to prepare outside of module hours.

III. Intended Learning Outcomes/Goals/Objectives (Program/Student Learning Outcomes):  
This course supports the College of Education’s Vision, Mission, Goals, and Core Values in that it addresses each of the six core values:

<table>
<thead>
<tr>
<th>Perkins College of Education’s Core Values</th>
<th>In this course, we will:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic excellence through critical, reflective, and creative thinking</td>
<td>Pursue academic excellence through developing and implementing the skills of reading the world around us, continuously critically reflecting on our praxis, and continuously attempting to be innovative facilitators;</td>
</tr>
<tr>
<td>Life-long learning</td>
<td>Continue to construct new knowledge as it relates to pedagogy, mathematics, and the social environment around us while acknowledging that continuous knowledge construction and reflection are needed throughout life to be a highly effective facilitator;</td>
</tr>
<tr>
<td>Collaboration and shared decision-making</td>
<td>Embrace the opportunity to work collaboratively in a learning community;</td>
</tr>
<tr>
<td>Openness to new ideas, to culturally diverse people, and to innovation and change</td>
<td>Explore culturally responsive pedagogy and current trends in mathematics education;</td>
</tr>
<tr>
<td>Integrity, responsibility, diligence, and ethical behavior, and</td>
<td>Include integrity, responsibility, diligence, and ethical behavior in our critical reflections on theory, practice, and praxis;</td>
</tr>
<tr>
<td>Service that enriches the community</td>
<td>Explore ideas about service learning and social justice projects that can be implemented in the middle grades.</td>
</tr>
</tbody>
</table>

The requirements in this course are designed to reinforce the shared vision and purpose of the SFASU Perkins College of Education. This course provides coherence for our Middle Level Grades (MLG) curriculum, clinical experiences, and assessments. It is linked to the University vision and values, and describes how those values translate into knowledge, skills, and dispositions in the Perkins College of Education (PCOE). It is this philosophy and vision that helps to distinguish our graduates from those of other institutions. This course aligns with the Association for Middle Level Education (AMLE) standards and the Interstate Teacher Assessment and Support Consortium (InTASC) standards for middle-level teacher preparation.

**Program Learning Outcomes:**

**PLO 1:** The teacher candidates will understand the major concepts, principles, theories, and research related to young adolescent development, and they provide opportunities that support student development and learning (AMLE 1; InTASC 1, 8).

Element A: Knowledge of Young Adolescent Development  
**SLO 1.1** The teacher candidate demonstrates knowledge of young adolescent development.
PLO 2: The teacher candidates will understand and use the central concepts, tools of inquiry, standards, research, and structures of content to plan and implement curriculum that develops all young adolescents’ competence in subject matter (AMLE 2; InTASC 4, 5, 6, 8).

Element A: Subject Matter Content

SLO A.2.1 The teacher candidate demonstrates depth in mathematics content knowledge which includes but is not limited to: numbers, operations, and quantitative reasoning; patterns, relationships, and algebraic reasoning; geometry and spatial reasoning; measurement; and probability and statistics (4/8 Texas Mathematics ST I, II, III, IV, V).

Assessment: SLO A.2.1.1 - Hyperdoc Project (Include Lesson and Language Objectives) (Math 4-8 Standards: 2.8s, 4.2k, 4.1s, 4.4s, 5.19s, 5.20s, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 7.23s, 7.1k, 7.2k, 7.3k, 7.4k, 7.5k, 7.6k, 7.7k, 7.8k, 7.9k, 8.1s, 8.2s, 8.3s, 8.4s, 8.5s, 8.6s, 8.7s; Texas Educator Standards (TS): TS1Ai, TS1Bi, TS1Iii, TS2Bi, TS3Ai, TS4I, TS4Ii, TS5Ai, TS5Ci, TS5Di, TS5Ii, TS6Ai, TS6Ii, TS6Bi).

Assessment: SLO A.2.1.2 - Field Experience Assignment 5-8 (Math 4-8 Standards: 1.13s, 3.7s, 4.4s, 5.19s, 6.5s, 7.23s, 7.24s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k, 9.1k, 9.2k, 9.3k, 9.4k, 9.5k, 9.6s, 9.7k, 9.1s, 9.2s, 9.3s, 9.4s, 9.5s, 9.6s, 9.7s; Texas Educator Standards (TS): TS1Di, TS1Ii, TS1Fi, TS2Aii, TS2Bii, TS3Aiii, TS3Bii, TS3Ci, TS4Ci, TS4Di, TS5Ai, TS5Ci, TS5Di, TS5Ii, TS6Ai, TS6Ii, TS6Bi).

Element B: Interdisciplinary Nature of Knowledge

SLO B.2.2 The teacher candidate demonstrates knowledge and understanding about the history, structure, and evolving nature of mathematics and its effects on society (4/8 Texas Mathematics VI).

Assessment: SLO B.2.2.1 - Reaction/Reflection Statements (Math 4-8 Standards: 1.1s, 1.18s, 2.2k, 2.5k, 2.6k, 2.7k, 2.12s, 2.14s, 2.15s, 2.16s, 2.17s, 3.1k, 3.4k, 3.5k, 3.6k, 3.9k, 3.10k, 3.9s, 3.12s, 3.13s, 3.14s, 3.15s, 4.3k, 4.4k, 4.5k, 4.2s, 4.3s, 4.5s, 4.6s, 4.7s, 4.8s, 4.10s, 4.13, 4.14s, 4.15s, 4.16s, 5.1k, 5.2k, 5.2s, 5.1s, 5.2s, 5.4s, 5.5s, 5.6s, 5.11s, 5.13s, 5.16s, 6.1k, 6.2k, 6.3k, 6.4k, 6.5k, 6.6k, 6.7k, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 6.7s, 7.1s, 7.2s, 7.3s, 7.4s, 7.5s, 7.6s, 7.8s, 7.9s, 7.10s, 7.11s, 7.12s, 7.13s, 7.14s, 7.15s, 7.16s, 7.17s, 7.18s, 7.19s, 7.20s, 7.21s, 7.22s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k; Texas Educator Standards (TS): TS1Ii, TS2Aii, TS2Bii, TS3Aiii, TS3Bii, TS4Ii, TS4Aii, TS4Ii, TS5Ai, TS5Bi, TS5Di, TS6Ii, TS6Ai, TS6Ii).

Assessment: SLO B.2.2.2 - Final Exam (Math 4-8 Standards: 1.1s, 1.18s, 2.0s, 2.1s, 4.14s, 5.19s, 5.20s, 6.1k, 6.2k, 6.3k, 6.4k, 6.5k, 6.6k, 7.1k; Texas Educator Standards (TS): TS3Bii, TS3Aiii, TS2Ci, TS2Bii, TS2Ai, TS4Ii, TS4Ai, TS4Ii, TS5Ai, TS5Bi, TS5Di, TS6Ii, TS6Ai, TS6Ii).

Assessment: SLO B.2.2.3 - Hyperdoc Project (Include Lesson and Language Objectives) (Math 4-8 Standards: 2.8s, 4.2k, 4.1s, 4.4s, 5.19s, 5.20s, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 7.23s, 7.1k, 7.2k, 7.3k, 7.4k, 7.5k, 7.6k, 7.7k, 7.8k, 7.9k, 8.1s, 8.2s, 8.3s, 8.4s, 8.5s, 8.6s, 8.7s; Texas Educator Standards (TS): TS1Ai, TS1Ii, TS1Bi, TS1Iii, TS1Iii, TS1Iii, TS2Bi, TS3B, TS3Cii).

SLO B.3 The teacher candidate demonstrates the ability to create a learning experience that is relevant, challenging, integrative, and exploratory while enhancing the student’s ability to think critically and to problem solve (4/8 Texas Mathematics ST VII).

Assessment: SLO B.3.1 - Hyperdoc Project (Include Lesson and Language Objectives) (Math 4-8 Standards: 2.8s, 4.2k, 4.1s, 4.4s, 5.19s, 5.20s, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 7.23s, 7.1k, 7.2k, 7.3k, 7.4k, 7.5k, 7.6k, 7.7k, 7.8k, 7.9k, 8.1s, 8.2s, 8.3s, 8.4s, 8.5s, 8.6s, 8.7s; Texas Educator Standards (TS): TS1Ai, TS1Ii, TS1Bi, TS1Iii, TS1Iii, TS1Iii, TS2Bi, TS3B, TS3Cii).

Element C: Middle Level Student Standards


Assessment: SLO C.2.1 - Reaction/Reflection Statements (Math 4-8 Standards: 1.1s, 1.18s, 2.2k, 2.5k, 2.6k, 2.7k, 2.12s, 2.14s, 2.15s, 2.16s, 2.17s, 3.1k, 3.4k, 3.5k, 3.6k, 3.9k, 3.10k, 3.9s, 3.12s, 3.13s, 3.14s, 3.15s, 4.3k, 4.4k, 4.5k, 4.2s, 4.3s, 4.5s, 4.6s, 4.7s, 4.8s, 4.10s, 4.13, 4.14s, 4.15s, 4.16s, 5.1k, 5.2k, 5.2s, 5.1s, 5.2s, 5.4s, 5.5s, 5.6s, 5.11s, 5.13s, 5.16s, 6.1k, 6.2k, 6.3k, 6.4k, 6.5k, 6.6k, 6.7k, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 6.7s, 7.1s, 7.2s, 7.3s, 7.4s, 7.5s, 7.6s, 7.8s, 7.9s, 7.10s, 7.11s, 7.12s, 7.13s, 7.14s, 7.15s, 7.16s, 7.17s, 7.18s, 7.19s, 7.20s, 7.21s, 7.22s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k, Texas Educator Standards (TS): TS1Ii, TS2Bii, TS3Aiii, TS3Bii, TS4Ii, TS4Aii, TS4Aii, TS4Ii, TS5Ai, TS6Ii);
PLO 3: The teacher candidates will understand the major concepts, principles, theories, and research underlying the philosophical foundations of developmentally responsive middle level programs and schools, and they work successfully within these organizational components (AMLE 3; InTASC 3).

Element A: Middle Level Philosophical Foundations
SLO 3.1 The teacher candidate demonstrates knowledge about the philosophical foundations of developmentally responsive approaches to mathematics pedagogy (4/8 Texas Mathematics ST V, VI, VII).

Assessment: SLO 3.1.1 - Reaction/Reflection Statements (Math 4-8 Standards: 1.7s, 1.18s, 2.2k, 2.5k, 2.6k, 2.7k, 2.12s, 2.14s, 2.15s, 2.16s, 2.17s, 3.1k, 3.4k, 3.5k, 3.6k, 3.9k, 3.10k, 3.9s, 3.12s, 3.13s, 3.14s, 3.15s, 4.3k, 4.4k, 4.5k, 4.2s, 4.3s, 4.5s, 4.6s, 4.7s, 4.8s, 4.10s, 4.13, 4.14s, 4.15s, 4.16s, 5.1k, 5.2k, 5.2s, 5.1s, 5.2a, 5.4s, 5.5s, 5.6s, 5.11s, 5.13s, 5.16s, 6.1k, 6.2k, 6.3k, 6.4k, 6.5k, 6.6k, 6.7k, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 6.7s, 7.1s, 7.2s, 7.3s, 7.4s, 7.5s, 7.6s, 7.8s, 7.9s, 7.10s, 7.11s, 7.12s, 7.13s, 7.14s, 7.15s, 7.16s, 7.17s, 7.18s, 7.19s, 7.20s, 7.21s, 7.22s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k, Texas Educator Standards (TS): TS1Di, TS2Ai, TS2Bi, TS3Ai, TS3Bi, TS3Ci, TS4Ai, TS4Bi, TS4Ci, TS5Ai, TS5Bi, TS6Ai, TS6Bi, TS6Di);
SLO 5.1 The teacher candidate explores and reflects on the value of working with the community (4/8 Mathematics ST VI).

**Assessment:** SLO 5.1.1 - Field Experience Assignment 1-4 (Math 4-8 Standards: 1.13s, 3.7s, 4.4s, 5.19s, 6.5s, 7.23s, 7.24s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k, 9.1k, 9.2k, 9.3k, 9.4k, 9.5k, 9.6k, 9.7k, 9.1s, 9.2s, 9.3s, 9.4s, 9.5s, 9.6s, 9.7s; Texas Educator Standards (TS): TS1Di, TS1Dii, TS1Fi, TS2Aii, TS2Bii, TS3Aii, TS3Bii, TS3Cii, TS4Ci, TS4Dii, TS5Aii, TS5Aii, TS5Ci, TS5Dii, TS5Dii, TS6Ai, TS6Aii, TS6Bii); **Assessment:** SLO 5.1.2 - Field Experience Assignment 5-8 (Math 4-8 Standards: 1.13s, 3.7s, 4.4s, 5.19s, 6.5s, 7.23s, 7.24s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k, 9.1k, 9.2k, 9.3k, 9.4k, 9.5k, 9.6k, 9.7k, 9.1s, 9.2s, 9.3s, 9.4s, 9.5s, 9.6s, 9.7s; Texas Educator Standards (TS): TS1Di, TS1Dii, TS1Fi, TS2Aii, TS2Bii, TS3Aii, TS3Bii, TS3Cii, TS4Ci, TS4Dii, TS5Aii, TS5Aii, TS5Ci, TS5Dii, TS5Dii, TS6Ai, TS6Aii, TS6Bii);

**Element D:** Dispositions and Professional Behaviors

SLO 5.2 The teacher candidate understands the importance of being a reflective practitioner committed to continuous professional growth and development in the teaching of mathematics (4/8 Texas Mathematics ST V, VI).

**Assessment:** SLO 5.2.1 – Reaction/Reflection Statements (Math 4-8 Standards: 1.7s, 1.18s, 2.2k, 2.5k, 2.6k, 2.7k, 2.12s, 2.14s, 2.15s, 2.16s, 2.17s, 3.1k, 3.4k, 3.5k, 3.6k, 3.9k, 3.10k, 3.9s, 3.12s, 3.13s, 3.14s, 3.15s, 4.3k, 4.4k, 4.5k, 4.2s, 4.3s, 4.5s, 4.6s, 4.7s, 4.8s, 4.10s, 4.13, 4.14s, 4.15s, 4.16s, 5.1k, 5.2k, 5.2s, 5.1s, 5.2s, 5.3s, 5.4s, 5.5s, 5.6s, 5.11s, 5.13s, 5.16s, 6.1k, 6.2k, 6.3k, 6.4k, 6.5k, 6.6k, 6.7k, 6.1s, 6.2s, 6.3s, 6.4s, 6.5s, 6.6s, 6.7s, 7.1s, 7.2s, 7.3s, 7.4s, 7.6s, 7.8s, 7.9s, 7.10s, 7.11s, 7.12s, 7.13s, 7.14s, 7.15s, 7.16s, 7.17s, 7.18s, 7.19s, 7.21s, 7.22s, 8.1k, 8.2k, 8.3k, 8.4k, 8.5k, 8.6k, 8.7k, 8.8k; Texas Educator Standards (TS): TS1Dii, TS2Aii, TS2Bii, TS3Aii, TS4Aii, TS5Aii, TS5Aii, TS5Cii, TS5Dii, TS4Ai, TS4Aii, TS4Ai, TS6Aii, TS6Bii); **Assessment:** SLO 5.2.2 – Mathematics Personification (Math 4-8 Standards: 9.2k, 9.3k, 9.4k, 9.5k, 9.6k, 9.7k, 9.2s, 9.3s, 9.4s, 9.5s, 9.6s, 9.7s; Texas Educator Standards (TS): TS2Aii, TS3Aii, TS6Ai, TS6Bii)

### IV. Course Assignments, Activities, Instructional Strategies, use of Technology:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Due Dates</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics Personification</td>
<td>10</td>
<td>9/8 @ 11:30pm</td>
<td>D2L Dropbox</td>
</tr>
<tr>
<td>Reaction Statements/ Discussion Postings</td>
<td>36</td>
<td>See Assignment Description</td>
<td>D2L Discussions</td>
</tr>
<tr>
<td>Field Experiences</td>
<td>12</td>
<td>FE 1-4: 10/13 @ 11:30 pm</td>
<td>D2L Dropbox</td>
</tr>
<tr>
<td>Hyperdoc Project</td>
<td>18</td>
<td>12/8 @ 11:30 pm</td>
<td>QR Code in Google Doc</td>
</tr>
<tr>
<td>Authentic Contributions while Negotiating Active Participation &amp; Dispositions</td>
<td>4</td>
<td>Ongoing</td>
<td>Observation</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
<td>12/12 @ 11:30 pm</td>
<td>D2L Dropbox</td>
</tr>
</tbody>
</table>

*All assignments must be completed to be eligible to receive an “A” in this course.*

### Description of Assignments

- **Reaction Statements/Discussion Postings (36%)**
  Reflective reaction paper and questions/comments for discussion (3 pts. each) – Reaction statements should be at least one-page in length (single spaced, 12 pt. font, one-inch margins) and should be in response to the assigned readings and weekly content that includes at least two critical questions for discussion. Please do not provide a mere summary of the readings. Instead, please provide a thoughtful, scholarly reaction to the readings/content. Your reaction may include but is not limited to areas of agreement/disagreement, affirmation (or you can offer a counter argument with outside academic resource support), or other influences/connections. Your reaction statements should represent critical reflective thought.

You are expected to submit 12 initial reaction statements/discussion postings and then engage in an ongoing discussion with our co-learners. Each initial posting should be at least one-page if typed in a Word document (12-pt. font, single-space, one-inch margins). Your initial one-page reaction statement w/critical questions should be copied/pasted to the discussion board by Thursday night at 11:30 pm. You should then respond to at least 3 of your group members’ initial posts by Sunday night at 11:30 pm engaging in an ongoing discussion when possible. Responses to the initial postings may be much shorter but should be thoughtful and meaningful (responses should be at least one, thoughtful, scholarly paragraph). Refer to the project sheet for more details.

<table>
<thead>
<tr>
<th>Week</th>
<th>Discussion Topics</th>
<th>Readings</th>
<th>Initial Reaction Statement by:</th>
<th>Respond to at Least 3 Peers through:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Culture, Cognition, and CRT/CSP in Math</td>
<td>• Module content and activities</td>
<td>Thursday, 09/5 @ 11:30 pm</td>
<td>Sunday, 09/8 @ 11:30 pm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Van de Walde Ch. 1-2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Facilitating Mathematics, Planning, and Assessment</td>
<td>• Module content and activities</td>
<td>Thursday, 09/12 @ 11:30 pm</td>
<td>Sunday, 09/15 @ 11:30 pm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Van de Walde Ch. 4-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Technology and Math &amp; Language and Math</td>
<td>• Module content and activities</td>
<td>Thursday, 09/19 @ 11:30 pm</td>
<td>Sunday, 09/22 @ 11:30 pm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Van de Walde Ch. 6-7</td>
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</tbody>
</table>
### Field Experiences (12%)
You are expected to complete and submit two sets of Field Experience assignments. Please refer to the D2L module “Field Experience Documents” and project sheet for more information and activities.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field Experience #1-4</td>
<td>No later than 11:30pm on October 13, 2019 in Dropbox</td>
</tr>
<tr>
<td>Field Experience #5-8</td>
<td>No later than 11:30pm on November 10, 2019 in Dropbox</td>
</tr>
</tbody>
</table>

### Field Experience Rubric

**2 Points Earned**

- **Must meet all the following criteria:**
  - a) Responses are complete and reflective
  - b) Reflective Thoughts are critical, showing a deep understanding of impact of experience on the teaching, learning, and assessing of mathematics.
  - c) Assignment submitted by due date

**0 Points Earned**

- **If any of the following:**
  - a) Any part of the experience is incomplete
  - b) Thoughts are shallow, or do not indicate understanding of teaching, learning, and assessing mathematics
  - c) Assignment submitted late or not at all
  - d) Any portion is plagiarized

1. **Teacher Interview**
   (Autonomy/Longevity)

2. **Student Interview**
   (General Math Experiences)

3. **Observation**
   (Content Emphasis)

4. **Observation**
   (Classroom Environment I)

5. **Teacher Interview**
   (Technology)

6. **Student Interview**
   (Suggestions for Teachers)

7. **Dispositions**
   (Personal/Professional Growth Plan)

8. **Observation**
   (Classroom Environment II)

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### Evaluation Rubric for Reflection Statements/Discussions

<table>
<thead>
<tr>
<th>Component</th>
<th>3 Points Earned</th>
<th>1.5 Points Earned</th>
<th>0 Points Earned</th>
</tr>
</thead>
</table>

- **Reaction Statement**
  
  **Must meet all the following criteria:**
  
  a) Scholarly and thoughtful reaction statement
  b) Personal response is at least one page (when written in Word with one-inch margins, 12-pt. font and single-spaced) in length
  c) References at least 2 of the assigned resources from the module
  d) The author poses 2 or more critical questions for discussion
  e) Scholarly and thoughtful response to at least 3 peers
  f) Posted initial response and responses by assigned deadlines

- **Must meet all the following criteria:**
  
  a) Thoughtful reaction statement with emerging clarity
  b) Personal response is almost one page (when written in Word with one-inch margins, 12-pt. font and single-spaced) in length
  c) References at least 1 of the assigned resources from the module
  d) The author poses at least 1 critical question for discussion
  e) Scholarly and thoughtful response to at least 2 peers
  f) Posted initial response and responses by assigned deadlines

- **If any of the following:**
  
  a) Reaction statement lacks clarity and/or does not meet academic writing expectations
  b) Personal response is half a page or less (when written in Word with one-inch margins, 12-pt. font and single-spaced) in length.
  c) Does not reference any of the assigned resources from the module
  d) The author did not pose any critical questions for discussion
  e) Responds to 1 or fewer peers
  f) Does not meet deadlines for initial posting or responses
  g) Any form of plagiarism
- **Real World Mathematics: Hyperdocs (18%)**
  You are expected to develop a Hyperdoc that allows students to investigate a real-world mathematics topic (you may choose any mathematics topic). Each Hyperdoc should be appropriate for a student in grades 4-8. You may choose the specific target grade level for this project if it is within the grades 4-8 scope. I look forward to your creativity. I have provided a rubric to guide your project. Please follow the project sheet for directions of submission of the link to your project. The link should be submitted no later than 12/8/19 at 11:30 pm. Refer to the module and project sheet for more details.

<table>
<thead>
<tr>
<th>Minimum Sections of Hyperdoc</th>
<th>Description</th>
<th>Max Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGAGE</td>
<td>Students are effectively engaged in the real-world mathematical topic at the beginning of a lesson with video, image, quote, or another hook.</td>
<td>2</td>
</tr>
<tr>
<td>EXPLORE</td>
<td>Students are provided an excellent collection of resources made available to them in order to explore the real-world mathematics topic</td>
<td>2</td>
</tr>
<tr>
<td>EXPLAIN</td>
<td>The lesson objective is appropriately explained using a web tool or another format in order to teach the content to students.</td>
<td>2</td>
</tr>
<tr>
<td>APPLY</td>
<td>The assignment provided not only properly engages students in the real-world mathematical topic for practice, but also provides opportunities to create, collaborate, and/or connect beyond the classroom.</td>
<td>2</td>
</tr>
<tr>
<td>SHARE</td>
<td>An effective collection of student work with a process for providing feedback as well as a section for students to share work with an authentic audience is provided.</td>
<td>2</td>
</tr>
<tr>
<td>REFLECT</td>
<td>Students are encouraged and provided the opportunity to reflect on their learning, including a guide for how they should reflect on their own learning progression.</td>
<td>2</td>
</tr>
<tr>
<td>EXTEND</td>
<td>An excellent list of links and/or more activities for additional online extension of the real-world mathematics is provided.</td>
<td>2</td>
</tr>
<tr>
<td>INSTRUCTOR NOTES</td>
<td>A completed section containing all necessary materials for another instructor to carry out this lesson with their own students is not only provided, but well developed and thorough.</td>
<td>2</td>
</tr>
<tr>
<td>SUBMISSION</td>
<td>Final Hyperdoc assignment has a catchy, well connected title, is well-planned, engaging and enticing to middle-level students, and covers an appropriate real-world mathematical exploration that supports the standards and is grade-level appropriate for middle-grade students.</td>
<td>2</td>
</tr>
</tbody>
</table>

**TOTAL: ____________/18**

- **Mathematics Personification (10%)**
  You are expected to create a personification of mathematics that explores your relationship with the subject. This personification will have 3 parts, including a written description, script of a discussion between the two of you, and an illustration of your mathematics character. The final project is due in the D2L Dropbox no later than 11:30pm on September 8, 2019. Refer to the project sheet for more details.

<table>
<thead>
<tr>
<th>Mathematics Personification Grading Rubric</th>
<th>4 pts.</th>
<th>2 pts.</th>
<th>1 pt.</th>
<th>0 pts.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Math Character</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very detailed, vivid descriptions of math character, explaining “who math is.” Writing meets the “about 500 words” requirement.</td>
<td>Descriptions of math character includes some detailed descriptions, explaining “who math is,” but at times is unclear. Writing meets the “about 500 words” requirement.</td>
<td>Descriptions of math character includes some descriptions, explaining “who math is,” but is overall unclear. Writing is well below the “about 500 words” requirement.</td>
<td>Section not present in project.</td>
<td></td>
</tr>
<tr>
<td><strong>Script</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very detailed script includes excellent dialogue between author and mathematics in a deep, meaningful conversation about their relationship. Writing meets the “about 500 words” requirement.</td>
<td>Script includes some good dialogue between author and mathematics in a conversation centered around their relationship. Writing meets the “about 500 words” requirement.</td>
<td>Script includes some dialogue between author and mathematics in a conversation that may or may not be centered around their relationship. Writing is well below the “about 500 words” requirement.</td>
<td>Section not present in project.</td>
<td></td>
</tr>
<tr>
<td><strong>Illustration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 pt.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excellent illustration of math character written about in part (a). Excellent details are provided.</td>
<td>Illustration of math character written about in part (a) is provided. Few details are provided.</td>
<td>Illustration of math character written about in part (a) is provided. Few details are provided.</td>
<td>Section not present in project.</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL: ____________/10pts.**

- **Final Exam (20%)**
  At the conclusion of this course, you are expected to complete a final exam. The exam will be located on D2L. Please submit to D2L Dropbox by 12/12/2019 at 11:30 pm.

- **Professionalism: (4%)** (Dispositions, Class and LC Engagement, and Active Participation)
  It is expected that each member of our class to bring their unique perspective and voice to this class. In the attempt to be “authentic” it is critical to refrain from any form of hate actions, but crucial to contribute often and with depth while negotiating through caring dispositions. It is encouraged for each person to be open and honest through a critically and caring lens. Collegiality is an important disposition of all future teachers. Working in small groups helps us learn this critical skill and teach it to future students. Your active
participation is expected and critical to our professional growth. All assignments must be completed to be eligible to receive an “A” in this course.

V. Evaluation and Assessments (Grading):
Class Attendance, Participation, Readings, and Discussions. Students are expected to have completed the assigned reading and viewed any assigned video clips prior to each class discussion. This will be a highly participatory class and preparation is essential.

- **Attendance Policy**: This course primarily meets online. You are expected to login often to view any course updates, emails, discussion postings, etc. that is associated with this course. Typically, the course week begins on Monday and ends on Sunday. You are expected review all content in the weekly modules and to actively participate in the discussion board. Note: Regular class attendance and participation is required of all students. Students must be attending and participating in all courses to qualify for financial aid. Students reported for non-attendance or non-participation in their courses could have their financial aid withdrawn.

- **Participation**: As a future educator, you should appreciate the importance of class participation. The quality of your participation demonstrates the seriousness with which you are approaching your chosen profession. You are expected to read all assigned materials and view any video clips prior to your discussion postings. All assignments must be completed to be eligible to receive an “A” in this course.

- **Late Assignments**: All work is expected by the assignment due date. I reserve the right to:
  1. not accept assignments turned in after the assignment due date; and
  2. to deduct points for late assignments (15% penalty); and
  3. not accept assignments submitted later than 7 or more calendar days past the due date; and
  4. deduct professionalism points for every two late assignments submitted or for non-participation in course, or in the event that a student engages in unethical practices (cheating, plagiarism, etc.)

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics Personification</td>
<td>10</td>
</tr>
<tr>
<td>Reaction Statements</td>
<td>36 (3 each)</td>
</tr>
<tr>
<td>Field Experience Assignments</td>
<td>12 (1.5 each)</td>
</tr>
<tr>
<td>Webquest</td>
<td>18</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20</td>
</tr>
<tr>
<td>Professionalism</td>
<td>4</td>
</tr>
</tbody>
</table>

| Final Grade                       | /100   |

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Grading Scale</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Points</td>
<td>A</td>
</tr>
<tr>
<td>90-100</td>
<td>B</td>
</tr>
<tr>
<td>80-89</td>
<td>C</td>
</tr>
<tr>
<td>70-79</td>
<td>F</td>
</tr>
<tr>
<td>Below 70</td>
<td></td>
</tr>
</tbody>
</table>

All assignments must be completed to be eligible to receive an “A” in this course.

VI. Tentative Course Outline/Calendar:

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic(s)</th>
<th>Readings</th>
<th>Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 8/26 – 9/1</td>
<td>Module 1: Introductions</td>
<td>Read Timeline and Syllabus</td>
<td>Syllabus, LiveText, &amp; APA Quizzes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Read Module 1 and participate in all module activities</td>
<td>Mathematics Personification Assignment (due in Dropbox by September 8 @ 11:30pm)</td>
</tr>
<tr>
<td>Week 2 9/2 – 9/8</td>
<td>Module 2: Culture, Cognition, and CRT/CSP in Math</td>
<td>Read Module 2 and participate in all module activities</td>
<td>Module 2 Reaction Statement: Initial Posting by 9/5 @ 11:30 pm; Respond to at least 3 peers through 9/8 @ 11:30 pm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VDW: Ch. 1 and Ch. 2</td>
<td></td>
</tr>
<tr>
<td>Week 3 9/9 – 9/15</td>
<td>Module 3: Facilitating Mathematics Planning and Assessment</td>
<td>Read Module 3 and participate in all module activities</td>
<td>Module 3 Reaction Statement: Initial Posting by 9/12 @ 11:30 pm; Respond to at least 3 peers through 9/15 @ 11:30 pm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VDW: 4 &amp; 5</td>
<td></td>
</tr>
<tr>
<td>Week 4 9/16 – 9/22</td>
<td>Module 4: Equity, Language, and Technology in the Mathematics Classroom</td>
<td>Read Module 4 and participate in all module activities</td>
<td>Module 4 Reaction Statement: Initial Posting by 9/19 @ 11:30 pm; Respond to at least 3 peers through 9/22 @ 11:30 pm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>VDW: 6, 7</td>
<td></td>
</tr>
</tbody>
</table>

| Week 5 9/23 – 9/29 | Module 5: Numbers, Operations, and Place Value | Read Module 5 and participate in all module activities | Module 5 Reaction Statement: Initial Posting by 9/26 @ 11:30 pm; Respond to at least 3 peers through 9/29 @ 11:30 pm. |
|                   | VDW: 9, 10, 11                          |                                                   |
| Week 6 9/30 – 10/6 | Module 6: Fractions Concepts            | Read Module 6 and participate in all module activities | Module 6 Reaction Statement: Initial Posting by 10/3 @ 11:30 pm; Respond to at least 3 peers through 10/6 @ 11:30 pm. |
|                   | VDW: 15                                |                                                   |
| Week 7 10/7 – 10/13 | Module 7: Fraction Computation         | Read Module 7 and participate in all module activities | Module 7 Reaction Statement: Initial Posting by 10/10 @ 11:30 pm; Respond to at least 3 peers through 10/13 @ 11:30 pm. |
|                   | VDW: 16                                |                                                   |

| Numbers, Operations, and Quantitative Reasoning | |

Field Experiences 1-4 due in Dropbox no later than 11:30pm on 10/13
Patterns, Relationships, and Algebraic Reasoning

Week 8
10/14 – 10/20
Module 8: Algebraic Reasoning and Proportional Relationships
Read Module 8 and participate in all module activities
VDW: 14, 18
Module 8 Reaction Statement: Initial Posting by 10/17 @ 11:30 pm; Respond to at least 3 peers through 10/20 @ 11:30 pm.

Week 9
10/21 – 10/27
Module 9: Decimals and Percent
Read Module 9 and participate in all module activities
VDW: 17
Module 9 Reaction Statement: Initial Posting by 10/24 @ 11:30 pm; Respond to at least 3 peers through 10/27 @ 11:30 pm.

Geometry and Spatial Reasoning

Week 10
10/28 – 11/3
Module 10: Geometric Thinking
Read Module 10 and participate in all module activities
VDW: 20
Module 10 Reaction Statement: Initial Posting by 10/31 @ 11:30 pm; Respond to at least 3 peers through 11/3 @ 11:30 pm.

Week 11
11/4 – 11/10
Module 11: Measurement: Length and Area
Read Module 11 and participate in all module activities
VDW: 19 (pp. 453-476)
Module 11 Reaction Statement: Initial Posting by 11/7 @ 11:30 pm; Respond to at least 3 peers through 11/10 @ 11:30 pm.
Field Experiences 5-8 due on Sunday, 11/10 by 11:30 pm: upload to D2L

Week 12
11/11 – 11/17
Module 12: Measurement: Volume, Capacity, and Time
Read Module 12 and participate in all module activities
VDW: 19 (pp. 476-487)
Module 12 Reaction Statement: Initial Posting by 11/14 @ 11:30 pm; Respond to at least 3 peers through 11/17 @ 11:30 pm.

Week 13
11/18 – 11/24
Module 13: Data Analysis & Probability
Read Module 13 and participate in all module activities
VDW: 21, 22
Module 13 Reaction Statement: Initial Posting by 11/21 @ 11:30 pm; No Response necessary for this week.

11/25 – 12/1
SFASU THANKSGIVING BREAK

Probability and Statistics

Week 14
12/2 – 12/8
Real-World Mathematics: Hyperdocs
Create Hyperdocs project – see information on project in the Assignment Sheet Module.
Real-World Mathematics: Hyperdocs due on 12/8 by 11:30 pm.

Week 15
12/9 – 12/13
Final Exam
Final Exam Module will open on December 4.
Final Exam due in Dropbox by 12/11 @ 11:30pm

VII. Readings:
- Required text:
- Other required readings will be posted on D2L.

Supplemental Resources/Suggested Readings:

Journals
Mathematics Teacher, National Council of Teachers of Mathematics. Mathematics Teaching in the Middle School, National Council of Teachers of Mathematics.

Other Resources


Texas Education Agency. (2009). *Texas essential knowledge and skills (TEKS)*.


Online Resources

National Council of Teachers of Mathematics (www.nctm.org)
American Mathematical Society — www.ams.org
Association for Women in Mathematics — www.awm-math.org
Internet4Classrooms — www.internet4classrooms.com
Pearson Welcome K–12 AP Teacher! — www.pearsonhighered.com/educator/K-12_AP_teacher.page
Texas Council of Teachers of Mathematics — www.tctmonline.org

LiveText Statement:

As a Perkins College of Education major, you are required to obtain and maintain a LiveText account. MLG 424.506 is not one in which the College collects critical assessments, but we are required to notify you of the requirement to have a LiveText account. The following statement is provided by the College and serves as a notification for courses that require collection of data for LiveText:

This course uses the LiveText data management system to collect critical assessments for students who are Perkins College of Education majors (undergraduate, graduate, and doctoral) or majors in other colleges seeking educator certification through the Perkins College of Education. Students who do not have an existing LiveText account will receive an access code via the SFA email system within the first week of class. You will be required to register your LiveText account, and you will be notified how to do this via email. If you forward
your SFA e-mail to another account and do not receive an e-mail concerning LiveText registration, please be sure to check your junk mail folder and your spam filter for these e-mails.

If you have questions about obtaining or registering your LiveText account, call ext. 1267 or e-mail SFALiveText@sfasu.edu. Once LiveText is activated, if you have technical questions, call ext. 7050 or e-mail livetext@sfasu.edu. Failure to activate the account and/or submit the required assignment(s) within the LiveText system may result in course failure.

VIII. Course Evaluations:

Near the conclusion of each semester, students in the Perkins College of Education electronically evaluate courses taken within the PCOE. Evaluation data is used for a variety of important purposes including: 1. Course and program improvement, planning, and accreditation; 2. Instruction evaluation purposes; and 3. Making decisions on faculty tenure, promotion, pay, and retention. As you evaluate this course, please be thoughtful, thorough, and accurate in completing the evaluation. Please know that the PCOE faculty is committed to excellence in teaching and continued improvement. Therefore, your response is critical!

In the Perkins College of Education, the course evaluation process has been simplified and is completed electronically through MySFA. Although the instructor will be able to view the names of students who complete the survey, all ratings and comments are confidential and anonymous, and will not be available to the instructor until after final grades are posted.

IX. Student Ethics and Other Policy Information:

Class Attendance and Excused Absence: Policy 6.7

Regular, punctual attendance, documented participation, and, if indicated in the syllabus, submission of completed assignments are expected at all classes, laboratories, and other activities for which the student is registered. Based on university policy, failure of students to adhere to these requirements shall influence the course grade, financial assistance, and/or enrollment status. The instructor shall maintain an accurate record of each student’s attendance and participation as well as note this information in required reports and in determining final grades. Students may be excused from attendance for reasons such as health, family emergencies, or student participation in approved university-sponsored events. However, students are responsible for notifying their instructors in advance, when possible, for excusable absences. Whether absences are excused or unexcused, a student is still responsible for all course content and assignments. Students with accepted excuses may be permitted to make up work for up to three weeks of absences during a semester or one week of a summer term, depending on the nature of the missed work. Make-up work must be completed as soon as possible after returning from an absence.

Academic Accommodation for Students with Disabilities: Policy 6.1 and 6.6

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 936-468-3004 as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Academic Integrity: Policy 4.1

Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university polity on penalties for cheating and plagiarism. Any infringement of Academic Integrity may result in a grade of “F” in this course.

Abiding by university policy on academic integrity is a responsibility of all university faculty and students. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

Definition of Academic Dishonesty

Academic dishonesty includes both cheating and plagiarism. Cheating includes, but is not limited to:

- using or attempting to use unauthorized materials on any class assignment or exam;
- falsifying or inventing of any information, including citations, on an assignment; and/or;
- helping or attempting to help another in an act of cheating or plagiarism.

Plagiarism is presenting the words or ideas of another person as if they were one’s own. Examples of plagiarism include, but are not limited to:

- submitting an assignment as one's own work when it is at least partly the work of another person;
submitting a work that has been purchased or otherwise obtained from the Internet or another source; and/or,
incorporating the words or ideas of an author into one's paper or presentation without giving the author credit.

Penalties for Academic Dishonesty
Penalties may include, but are not limited to reprimand, no credit for the assignment or exam, re-submission of the work, make-up exam, failure of the course, or expulsion from the university.

Student Appeals
A student who wishes to appeal decisions related to academic dishonesty should follow procedures outlined in Academic Appeals by Students (6.3).

Withheld Grades: Policy 5.5
At the discretion of the instructor of record and with the approval of the academic unit head, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F, except as allowed through policy [i.e., Active Military Service (6.14)]. If students register for the same course in future semesters, the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Student Code of Conduct: Policy 10.4
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program. Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This policy applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the iCare: Early Alert Program at SFA. Information regarding the iCare program is found at https://www.sfasu.edu/judicial/earlyalert.asp or call the office at 936-468-2703.

Code of Ethics for the Texas Educator
The Texas educator shall comply with standard practices and ethical conduct toward students, professional colleagues, school officials, parents, and members of the community and shall safeguard academic freedom. The Texas educator, in maintaining the dignity of the profession, shall respect and obey the law, demonstrate personal integrity, and exemplify honesty and good moral character. The Texas educator, in exemplifying ethical relations with colleagues, shall extend just and equitable treatment to all members of the profession. The Texas educator, in accepting a position of public trust, shall measure success by the progress of each student toward realization of his or her potential as an effective citizen. The Texas educator, in fulfilling responsibilities in the community, shall cooperate with parents and others to improve the public schools of the community. This chapter shall apply to educators and candidates for certification. Please go to TAC 247.1 – Code of Ethics and Standard Practices for Texas Educators. This can be found at: http://ritter.tea.state.tx.us/sbecrules/tac/chapter247/ch247.html

To complete Certification/Licensing Requirements in Texas related to public education, you will be required to:

1. Candidates must undergo a criminal history background check prior to clinical teaching and prior to employment as an educator. The public-school campuses are responsible for completing the criminal background check. A person who is enrolled or planning to enroll in a State Board for Educator Certification-approved educator preparation program or planning to take a certification examination may request a preliminary criminal history evaluation letter regarding the person's potential ineligibility for certification due to a conviction or deferred adjudication for a felony or misdemeanor offense.

A Preliminary Criminal History Evaluation is a non-mandatory, non-binding evaluation of an individual’s self-reported criminal history. In addition, the agency obtains your name-based Texas criminal history information. The service is provided to the requestor for a non-refundable fee. The requestor will receive an evaluation letter by email from agency staff advising of potential ineligibility for educator certification. You are eligible to request a Preliminary Criminal History Evaluation if:
- You enrolled or planning to enroll in an educator preparation program or
- You are planning to take a certification exam for initial educator certification, and
- You have reason to believe that you may be ineligible for educator certification due to a conviction or deferred adjudication for a felony or misdemeanor offense.
You are not eligible for a preliminary evaluation of your criminal history if you do not have a conviction or deferred adjudication for a felony or misdemeanor offense.

In addition, you must complete the fingerprinting process when you apply for certification. Participation in the evaluation does not preclude you from submitting to a national criminal history review at the time you apply for your educator certification. Your criminal history will be reviewed, and you may be subject to an investigation based on that criminal history, including any information you failed to submit for evaluation.

Additional information can be found at https://tea.texas.gov/Texas_Educators/Investigations/Preliminary_Criminal_History_Evaluation-FAQs/.

2. Provide one of the following primary ID documents: passport, driver’s license, state or providence ID cards, a national ID card, or military ID card to take the TExES exams (additional information available at www.texas.ets.org/registrationBulletin/). YOU must provide legal documentation to be allowed to take these mandated examinations that are related to certification/licensing requirements in Texas. If you do not have legal documentation, you may want to reconsider your major while at SFASU.

3. Successfully complete state mandated a fingerprint background check. If you have a history of criminal activity, you may want to reconsider your major while at SFASU.

For further information concerning this matter, contact Katie Snyder 936-468-1740 or snyderke1@sfasu.edu.