

George Mason University
College of Education and Human Development
Secondary Education

672.001– Advanced Methods of
Teaching Mathematics in the Secondary School

3 Credits, Spring 2020
Tuesdays 4:30-7:10 pm, West Building, 1008 – Fairfax Campus

Faculty

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Students do not just need mathematics; mathematics needs different people's participation.

(Gutierrez, 2007)

Prerequisites/Corequisites

This course recommends EDCI 572 and EDUC 522 as prerequisites. This course recommends EDRD 619 as a corequisite.

University Catalog Course Description

Focuses on learning processes for mathematics. Introduces national and state standards regarding content and methodologies for teaching mathematics. Examines instructional methods and materials in relation to secondary mathematical content, curriculum, and assessment. School-based field experience required.

Course Overview

In *Teaching Mathematics in the Secondary School* course you thought about what it means to *understand* mathematics, were introduced to learning theories, became familiar with standards documents, and learned about characteristics of mathematics instruction that fosters deep understanding of and proficiency in working with mathematics.

In this course, *Advanced Methods of Teaching Mathematics in the Secondary School*, you will learn more about four aspects of mathematics teaching: managing classroom discourse, differentiation, use of technology, equity and assessment. You will explore these aspects of mathematics teaching while keeping a focus on student thinking and learning. Regardless of whether a teacher is engaging with the class, differentiating instruction, or conducting an assessment, the teacher must focus on the development of student thinking about mathematics and a respect for student difference and diversity. You will learn how to do this in this class.

This will help you as you embark upon Internship and your first teaching position!

We will address the objectives as we progress through the course, which is organized into four sections:

I. Managing Classroom Discourse

In this part of the course you will critique and learn more about teacher decisions in managing whole-class mathematical discussions. You will learn more about questioning and will consider appropriate times to ask particular questions. Then, later in the course, you will have the opportunity to practice managing a conversation when you teach a full lesson to the class.

II. Assessment

In this final section of the course you will consider the role of assessment in a mathematics classroom and will learn more about ways that teachers might gain insight into student thinking about mathematics.

III. Differentiation

In this section of the course, you will become familiar with strategies for differentiating mathematics instruction. By focusing on student thinking, you will learn how to meet student needs while holding them to high standards.

IV. The Responsibility of the Teacher in Today's Schools

In this final section of the course you will consider the role of a *mathematics* teacher in today's world. You will consider your responsibility to the diverse group of students you will be teaching and to the surrounding community

Course Delivery Method

This course will be delivered using a lecture format.

Learner Outcomes or Objectives

This course is designed to enable students to do the following:

1. Demonstrate an ability to critique classroom discourse and the role of the teacher in facilitating that discourse through findings from research on student learning
2. Demonstrate an ability to plan a mathematics lesson that fosters deep understanding of mathematics content for *all* students
3. Plan a mathematics lesson that includes elements of differentiation, assessment, and technology, is problem-based, requires students to engage in sense making, and engages students in mathematical communication while adhering to state and national standards
4. Develop assessments that give a teacher insight into student thinking about mathematics content
5. Conduct an analysis of ideas for teaching mathematics in diverse classrooms
6. Develop knowledge, skills, and professional behaviors across secondary settings, examine the nature of mathematics, how mathematics should be taught, and how students learn mathematics; and observe and analyze a range of approaches to mathematics teaching and learning focusing on tasks, discourse, environment, and assessment

Professional Standards

Upon completion of this course, students will have met the following professional standards:

NCTM Secondary Mathematics Standard 2, Mathematical Practices: Effective teachers of secondary mathematics solve problems, represent mathematical ideas, reason, prove, use mathematical models, attend to precision, identify elements of structure, generalize, engage in mathematical communication, and make connections as essential mathematical practices. They understand that these practices intersect with mathematical content and that understanding relies on the ability to demonstrate these practices within and among mathematical domains and in their teaching.

NCTM Secondary Mathematics Standard 3, Content Pedagogy: Effective teachers of secondary mathematics apply knowledge of curriculum standards for mathematics and their relationship to student learning within and across mathematical domains. They incorporate research-based mathematical experiences and include multiple instructional strategies and mathematics-specific technological tools in their teaching to develop all students' mathematical understanding and proficiency. They provide students with opportunities to do mathematics – talking about it and connecting it to both theoretical and real-world contexts. They plan, select, implement, interpret, and use formative and summative assessments for monitoring student learning, measuring student mathematical understanding, and informing practice.

NCTM Secondary Mathematics Standard 4, Mathematical Learning Environment:

Effective teachers of secondary mathematics exhibit knowledge of adolescent learning, development, and behavior. They use this knowledge to plan and create sequential learning opportunities grounded in mathematics education research where students are actively engaged in the mathematics they are learning and building from prior knowledge and skills. They demonstrate a positive disposition toward mathematical practices and learning, include culturally relevant perspectives in teaching, and demonstrate equitable and ethical treatment of and high expectations for all students. They use instructional tools such as manipulatives, digital tools, and virtual resources to enhance learning while recognizing the possible limitations of such tools.

NCTM Secondary Mathematics Standard 7, Secondary Mathematics Field Experiences and Clinical Practices:

Effective teachers of secondary mathematics engage in a planned sequence of field experiences and clinical practice under the supervision of experienced and highly qualified mathematics teachers. They develop a broad experiential base of knowledge, skills, effective approaches to mathematics teaching and learning, and professional behaviors across both middle and high school settings that involve a diverse range and varied groupings of students. Candidates experience a full-time student teaching/internship in secondary mathematics directed by university or college faculty with secondary mathematics teaching experience or equivalent knowledge base.

Required Texts

Access to the following materials is required:

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

***Download available here for \$4.99: [https://www.nctm.org/Store/Products/Principles-to-Actions-\(Download\)/](https://www.nctm.org/Store/Products/Principles-to-Actions-(Download)/)

National Governors Association Center for Best Practices, Council of Chief State School Officers. (2010). *Common Core State Standards Mathematics*. National Governors Association Center for Best Practices, Council of Chief State School Officers, Washington D.C. Retrieved from: <http://www.corestandards.org/Math>

Virginia Standards of Learning and Testing, Mathematics 2016. Retrieved from: http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/2016/index.shtml

Wieman, R., & Arbaugh, F. (2013). *Success from the start: Your first years teaching secondary mathematics*. National Council of Teachers of Mathematics.

You will also complete additional readings as assigned. All additional readings will be uploaded to Blackboard.

Required Software

GoReact is an online software that allows you to upload teaching footage, analyze, and engage with feedback from the instructor and other colleagues. Goreact costs \$19.99 per course or \$99 for unlimited use for five years. To sign up and receive more details visit:

<https://get.goreact.com/>

Recommended Purchase

NCTM Student Membership (\$48/year) - A student e-membership is designed for those enrolled in an accredited college or university as a full-time student with an interest in mathematics education. Set up at half the cost of a full individual membership, this option helps provide students an entry into the membership and how NCTM can help support you through graduation, first years of teaching, and beyond. Student members also get FREE registration to [NCTM Regional Conferences and Expositions](#). Click the link for additional details:

<http://www.nctm.org/Membership/Membership-Options-for-Individuals/>

COURSE ASSIGNMENTS AND EXPECTATIONS

The following assignments will help you (and me) to gauge your development throughout the course:

Assessment	Percentage of Grade
In-Class Participation and Preparation	10%
Additional Weekly Assignments (e.g., tools of geometry activity, peer teaching, in-class workshops, etc.)	15%
Assessment Assignment	20%

Micro-Teaching	15%
Field Work Assignment	15%
Unit Plan Assignment & Individualized Learning Plan <ul style="list-style-type: none"> • Includes Clinical Interview with student 	25%

Course Performance Evaluation

Students are expected to submit all assignments on time in the manner outlined by the instructor (e.g., Blackboard, Tk20, hard copy).

Participation and Preparation

The participation of each class member is vitally important. If you do not come prepared to discuss the readings, to share your work on a given assignment, and to participate in the activities of the day the entire class will suffer. You **must** commit to be coming to every class on time, being prepared for the evening's activities, and being ready to participate. You can expect that, in addition to work on the larger projects outlined below, there will be weekly readings and assignments that will fall into this category. If, however, there is an emergency and you cannot make it to class, you **must email me ahead of time** and submit all assignments electronically before the end of class.

Due Dates, Late Assignments, and Revised Assignments

Due Dates: All assignments are due by 11:59pm of the date assigned.

Late Assignments: If an assignment is not uploaded by 11:59pm of the date assigned, and you have not contacted me to receive an extension, then the assignment will be considered late. All late assignments will receive a *one-letter grade penalty*. If you know that you are going to have an issue with completing an assignment on time, please **notify me ahead of time** to avoid this late grade penalty.

Revised Assignments: When students earn less than 80% on an assignment, I often offer them the opportunity to revise and resubmit. As long as students meet the guidelines for resubmission, students may earn up to 75% of the missed points on the assignment. Please keep in mind that it requires additional work to grade revised assignments, so they will require additional time to re-grade.

Assignment Descriptions

Unit Plan and Individualized Lesson Plan

Throughout this semester, you will explore many issues related to the teaching and learning of mathematics. In this culminating assignment, you will have the opportunity to use the knowledge, skills, and understandings you've gained in this and the previous semester in the creation of a complete unit of study. Within this unit plan, you will be asked to design lessons that pay attention to the use of technology, the development of student understanding of mathematics content, various standards documents, assessment of student understanding, and ways to differentiate instruction for diverse groups of learners. After submission of the unit plan, you will present your plan to your peers so that the entire class can begin to create a collection of teaching ideas for various content areas within secondary mathematics. As part of

the Unit Plan project, you will develop an individualized plan for a child with developmental, learning, physical, or linguistic differences within the context of the general education environment and curriculum. This will count as one of the lessons in your unit plan.

Clinical Interview

Effective teaching requires a keen awareness of how and what your students are thinking and understanding. The experience of conducting a clinical interview is intended to increase your awareness of the forms of questioning and engagement that offer insight into the thinking of your students. Conduct a clinical interview with a student, or if necessary, an adult about a carefully chosen problem or activity in mathematics.

Assessment Assignment

In this assessment, you will apply what you learned about assessment to your unit plan. Building on what you learned, you will further develop your assessment plan for the unit and, in so doing, develop two assessment instruments and corresponding grading rubrics.

Micro-Teaching Assignment

In this assignment, you will apply all that you learned about planning and orchestrating classroom discourse to the development, implementation, and reflection upon a lesson surrounding a mathematics concept covered in secondary mathematics classrooms. The implementation of a co-taught lesson will be video-recorded so as to facilitate the reflection process. This process is valuable to you as you teach and reflect on your teaching of a lesson.

Field Work Assignment

You will complete 15 hours of field work and keep a log of these hours for submission at the end of the semester. During this time, you will remain with one teacher and slowly begin to interact with students. By the end of the experience you will have taught a whole, or part of a whole, lesson. You will submit the lesson and reflect upon its effectiveness. This assignment provides you with an excellent opportunity to work with real students as you prepare to become a teacher.

Grading

Final course grades will be assigned based upon weighted percentages as indicated by the Course Expectations.

A	93-100%
A-	90-92%
B+	88-89%
B	80-87%
C	70-79%
F	Below 70%

Professional Dispositions

See <https://cehd.gmu.edu/students/policies-procedures/>

Class Schedule

Note: This schedule serves as a roadmap for the course. Faculty reserves the right to alter the schedule as necessary, with notification to students. No assignment will ever be moved up in the calendar, but assignments may need to be pushed back based on the pacing of the course.

Date	Topic	Text	Activity or Assignment Due
Class 1 January 27th	Staging the Big Picture: Looking Back and Looking Ahead	Principles to Actions (PtA) pp. 59-68 Weiman & Arbaugh Ch 9	
Class 2 February 3rd	Facilitating Mathematical Discourse: Questioning Unit Planning	Wiggins & McTighe (2011) -see Bb	Bring a lesson plan from Methods 1 to re-work for an in-class activity
Class 3 February 10th	Facilitating Mathematical Discourse: Questioning	See Bb for articles.	Selection of Unit Plan Topic and partners
Class 4 February 17th	Assessment Introduction Formative Assessment and Discourse	<i>PtA</i> – pp. 89-98 Wieman & Arbaugh – pp. 169-182	Submit Backwards Design table for Unit
Class 5 February 24th	Assessment: Formative, Summative, and Alternative	Brahier (2001/2014)	Submit Part 1 of Unit Plan Project (top-level outline, concept map, etc.)
Class 6 March 2nd	Assessment: Homework & Final Grades	See Bb for articles	Submit Lesson Plan #1
March 9th	Spring Break – No class this week		
Class 7 March 16th	Equity Issues in Mathematics Education	See Bb for articles.	Clinical Interview Due In class: Tools of Geometry
Class 8 March 23rd	Meeting the Needs of Diverse Learners: Complex Instruction and Groupworthiness	Horn Ch 1 & 2	Assessment Plan Due

Class 9 March 30	Meeting the Needs of Diverse Learners: Complex Instruction and Groupworthiness	Horn Ch 3 & 4	Microteaching
Class 10 April 6th	Meeting the Needs of Diverse Learners: Special Education and ELLs	See Bb for articles.	Microteaching
Class 11 April 13th	Meeting the Needs of Diverse Learners: Special Education and Gifted Learners	See Bb for articles.	Microteaching
Class 12 April 20th Asynchronous online class	Advanced Mathematics: Content and Considerations	<i>Catalyzing Change</i> (see Bb)	
Class 13 April 27th	Advanced Mathematics: Content and Considerations	<i>Catalyzing Change</i> (see Bb)	Unit Plan Project Due
Class 14 May 4th	Being a Member of the Mathematics Community	<i>PtA</i> pp. 99-108 Wieman & Arbaugh pp. 187-192	Field Experience Project Due by

Core Values Commitment

The College of Education and Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

GMU Policies and Resources for Students

Policies

- Students must adhere to the guidelines of the Mason Honor Code (see <https://catalog.gmu.edu/policies/honor-code-system/>).
- Students must follow the university policy for Responsible Use of Computing (see <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- Students are responsible for the content of university communications sent to their Mason email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students **solely** through their Mason email account.

- Students with disabilities who seek accommodations in a course must be registered with George Mason University Disability Services. Approved accommodations will begin at the time the written letter from Disability Services is received by the instructor (see <https://ds.gmu.edu/>).
- Students must silence all sound emitting devices during class unless otherwise authorized by the instructor.

Campus Resources

- Support for submission of assignments to Tk20 should be directed to tk20help@gmu.edu or <https://cehd.gmu.edu/aero/tk20>. Questions or concerns regarding use of Blackboard should be directed to <http://coursessupport.gmu.edu/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>
- The Writing Center provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing (see <http://writingcenter.gmu.edu/>).
- The Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance (see <http://caps.gmu.edu/>).

Notice of mandatory reporting of sexual assault, interpersonal violence, and stalking: As a faculty member, I am designated as a “Responsible Employee,” and must report all disclosures of sexual assault, interpersonal violence, and stalking to Mason’s Title IX Coordinator per University Policy 1202. If you wish to speak with someone confidentially, please contact one of Mason’s confidential resources, such as Student Support and Advocacy Center (SSAC) at 703-380-1434 or Counseling and Psychological Services (CAPS) at 703-993-2380. You may also seek assistance from Mason’s Title IX Coordinator by calling 703-993-8730, or emailing titleix@gmu.edu.

For additional information on the College of Education and Human Development, please visit our website <https://cehd.gmu.edu/students/> .

Assignment Description

UNIT PLAN ASSIGNMENT

Due _____

Throughout the semester, we have been discussing (1) what it means to understand mathematics, (2) various learning theories and their implications for the teaching and learning of mathematics, (3) NCTM's vision for school mathematics teaching and learning, (4) the role of state and local standards documents in the design of instruction, (5) characteristics of instruction that promote the development of strong understandings of mathematics, and (6) organization and planning of units and lessons. You have had opportunities to observe teaching, to lead the class in problem solving through a mini-teach assignment, and to analyze various aspects of mathematics instruction. Shortly, we will be discussing ways to assess student understanding of mathematics and you will be interviewing a student to have practice in doing so. In this culminating, unit plan project you will have the opportunity to apply all that you have learned (and will learn) to the design of an entire unit of study for secondary students – students you will someday teach!

Assignment Description

You will develop a unit plan for a significant topic in a standard 6-12 mathematics curriculum. A unit, as defined by Brahier (2009) is “a carefully planned set of learning experiences that are designed to address one or several goals and objectives over time” (p. 136). These goals should be organized around a unifying topic in mathematics.

First, you need to identify a unit. You should pick a topic that is broad enough (and significant enough) to cover 2-4 weeks of instruction (or 15-20 hours). “Solving algebraic equations” is far too broad; “constructing circles with a compass” is far too narrow. The choice of your unit should be consistent with the NCTM and Virginia State Standards. For ideas on choosing a unit, you should consult the standards documents and potentially browse through some of the mathematics textbooks in the Johnson Center library.

Once you have identified a unit, you will develop a unit plan that includes the following components:

1. A top-level outline of the unit
2. A calendar outlining the topics for each day of the unit
3. Lesson plans for **1 week (including the first lesson)** of instruction within the unit.
Undergraduate students will only submit 4 lesson plans.
4. An assessment plan
5. A unit narrative

The following provides a detailed outline of each of the five components of this assignment.

1. Concept Map and top-level outline – Assessed independently from final scoring rubric

You will submit an outline of your unit. This outline should include:

- a. a title (identifying its subject matter or mathematical focus),

- b. a description of the students for whom the unit is intended (grade, course, prior knowledge needed, etc.),
- c. a statement of the unit's goal(s),
- d. a statement (paragraph) of the rationale for the unit describing why it is important (supported by sources), and
- e. a list of the objectives relevant to the unit. This should be a comprehensive list for the unit, and *not limited to the objectives of the 2 weeks of lessons you are planning*. The list should indicate how these objectives align to the NCTM and VA SOL standards
- f. a concept map highlighting the major concepts covered in the unit and how they relate

2. Calendar describing the unit – Assessed independently from final scoring rubric

You will submit a calendar to describe the unit. This calendar should illustrate the progression of the topics and the connections between days of instruction. In so doing, it should outline the topics for each day of instruction within the unit.

3. One week of the unit (including the first lesson) planned in detail – Assessed using Unit Plan rubric comprised of NCTM Secondary Math Standards

You will submit one week's worth of detailed lesson plans. Lesson plans should be submitted according to the format discussed in class. They should be interactive and should encourage inquiry. You are responsible for describing the actions of the teacher, the progression of the mathematical activity and the possible responses and questions from the students in the description of the instruction.

It is important that you submit the *first lesson* of your unit. In particular, the first lesson should provide a suitable introduction and motivation for the entire unit. Additionally, all the lessons should be clearly and meaningfully related to one another.

4. Unit narrative – Assessed using Unit Plan rubric comprised of NCTM Secondary Math Standards

The final component of your unit plan is a narrative describing the following:

- a. Your goals for mathematics teaching and learning and their representation in the unit plan. For instance, if hands-on learning using real-world problem solving is important to you, how have you implemented it in the unit plan?
- b. How the teaching strategies you have implemented allow for the diverse learning styles and abilities of your students.
- c. How the unit is mathematically and pedagogically cohesive. Explain how the instructional strategies and mathematical content fits together.

What I'll be looking for:

The following identifies the criteria used to judge the quality of your unit assignment:

- a. A choice of a meaningful unit topic, according to NCTM and Virginia standards.
- b. A *comprehensive* outline of the unit. That is, your objectives should be consistent with your stated goal, and they should span enough of a range to include significant and meaningful coverage of the relevant mathematical ideas. The objectives should highlight the variety of types of knowledge appropriate to the unit's subject matter.

- c. Lesson plans that are professional, detailed, and consistent with the standards set by NCTM and the State of Virginia. A variety of instructional strategies should be included, with strategies (i.e., direct instruction, individual work, group work, whole-class discussions, etc.) appropriately matched to the lesson objectives they are intended to support. Lessons should be appropriately sequenced.
- d. Assessments that are appropriate measures of the types of knowledge they are intended to measure (as determined by the lesson's objectives).
- e. Creativity. Your book, our readings, and our classroom discussions and activities have focused on the need for classroom lessons that support students' direct engagement, communication, and meaningful thinking. Your unit and lesson plans should demonstrate your efforts to think beyond strictly traditional lessons.

Grading Rubric

The following rubrics are used to assess the final lesson plan submission and accompanying narrative (Parts 3 and 4). The grading rubric for this assignment is in your syllabus and posted on Blackboard. The rubric is an integration of the InTASC *General Evaluation Rubric*, which is used by George Mason University for all secondary unit plans, regardless of content area. and the NCTM Secondary Mathematics rubric and is used only for secondary mathematics students. Please become familiar with the rubric prior to working on the unit plan.

EDCI 472/672
Unit Plan Project Rubric: InTASC

Criteria	Does Not Meet Standard 1	Approaches Standard 2	Meets Standard 3	Exceeds Standard 4
Section 1				
Description of Individual Student				
<p>The candidate regularly assesses individual and group performance in order to design and modify instruction to meet learners' needs in each area of development (cognitive, linguistic, social, emotional, and physical) and scaffolds the next level of development.</p> <p><i>InTASC 1(a)</i></p>	<p>The candidate does not provide a description or the description of student does not include assessment data related to cognitive, linguistic, social, emotional, and/or physical developmental skill levels and abilities, interests, or educational progress.</p>	<p>The candidate provides description of student that includes appropriate assessment data related to some but not all of the following: cognitive, linguistic, social, emotional, and/or physical developmental skill levels and abilities, interests, or educational progress.</p>	<p>The candidate provides description of student that includes appropriate assessment data on all of the following: cognitive, linguistic, social, emotional, and/or physical developmental skill levels and abilities, interests, and educational progress.</p> <p>The candidate describes impact of student characteristics on learning.</p>	<p>The candidate provides description of student that includes both appropriate and multiple forms of assessment data on all of the following: cognitive, linguistic, social, emotional, and/or physical developmental skill levels and abilities, interests, and educational learning need.</p> <p>The candidate describes and provides examples of impact of student characteristics on learning.</p>
Statement of Educational Need				
<p>The candidate effectively uses multiple and appropriate types of assessment data to identify each student's learning needs and to develop differentiated learning</p>	<p>The candidate does not address student educational needs or inappropriately uses assessment data to create a statement of educational need.</p>	<p>The candidate uses assessment data to create a statement of educational need that is marginally aligned with assessment results.</p>	<p>The candidate uses assessment data to create an appropriate statement of educational need that is aligned with assessment results.</p>	<p>The candidate effectively uses assessment data from multiple sources to create a thorough and appropriate statement of educational need that is aligned with assessment</p>

experiences. <i>InTASC 6(g)</i>				results.
Section 2 Identification of Learning Objectives				
The candidate individually and collaboratively selects and creates learning experiences that are appropriate for curriculum goals and content standards, and are relevant to learners. <i>InTASC 7(a)</i>	The candidate identifies learning objectives that are either (a) incomplete because related outcomes are not identified or (b) the objectives are not directly related to student educational need.	The candidate identifies learning objectives without relevance to student educational need.	The candidate identifies learning objectives with related outcomes that are relevant to individual student needs.	The candidate identifies distinct learning objectives with related outcomes that are relevant to individual student needs.
Identification of Rationale for Learning Objectives				
The candidate plans for instruction based on formative and summative assessment data, prior learner knowledge, and learner interest. <i>InTASC 7(d)</i>	The candidate does not provide rationales which are aligned to the specific learning objectives and/or the relationship of the learning objectives to student educational needs is missing or unclear.	The rationales provided are not be aligned to the specific learning objective and the relationship of the learning objectives to student educational needs is unclear.	The rationales provided are aligned with the learning objective and the relationship of learning objectives to student educational needs is clearly identified.	The rationales provided are aligned with the learning objective and the relationship of the learning objectives to student educational needs is clearly and effectively identified.
Section 3 Description of Instructional Strategies				
The candidate plans how to achieve each student's learning goals, choosing appropriate strategies and accommodations, resources, and materials to differentiate instruction for	The candidate does not identify instructional strategies or identifies instructional strategies that are not related to the learning objectives or student learning	The candidate identifies instructional strategies that are marginally related to the learning objectives or student learning needs.	The candidate identifies evidence-based instructional strategies that are aligned to the learning objectives and student learning needs.	The candidate identifies evidence-based instructional strategies that are aligned to specific learning objectives and student learning needs.

individuals and groups of learners. <i>InTASC 7(b)</i>	needs.			The candidate provides specific sources of evidence for the instructional strategy.
Rationale for Instructional Strategies				
The candidate understands that each learner's cognitive, linguistic, social, emotional, and physical development influences learning and knows how to make instructional decisions that build on learners' strengths and needs. <i>InTASC 1(e)</i>	The candidate does not provide rationales which are aligned to the specific instructional strategies and/or the relationship of instructional strategies to the learning objectives and student educational needs is missing or unclear .	The rationales provided do not align to the specific instructional strategies and, the relationship of the instructional strategies to the learning objectives that meet student educational needs is unclear .	The rationales provided are aligned with instructional strategies and, the relationship of the instructional strategies to the learning objectives that meet student educational needs is clearly identified.	The rationales provided are aligned with the strategies and, the relationship of the instructional strategies to specific learning objectives that meet student educational needs is clearly and effectively identified.
Section 4				
Description of Instructional Adaptation				
The candidate accesses resources, supports, and specialized assistance and services to meet particular learning differences or needs. <i>InTASC 2(f)</i>	The candidate does not identify either adaptations or accommodations to support student achievement of learning objectives.	The candidate identifies either adaptations or accommodations that minimally support student achievement of learning objectives.	The candidate identifies and describes appropriate adaptations or accommodations that clearly support student achievement of learning objectives.	The candidate identifies and thoroughly describes appropriate adaptations or accommodations that clearly support student achievement of learning objectives.
Rationale for Instructional Adaptation				
The candidate knows a range of evidence-based instructional strategies, resources, and technological tools and how to use them effectively to plan instruction that	The candidate does not provide rationales that are aligned to the adaptations and accommodations and/or the relationship of the adaptations and accommodations	The rationales marginally provides evidence to support the adaptations and accommodations and the relationship of the adaptations and	The rationales provide adequate evidence to support the adaptations and accommodations and the relationship of the adaptations and accommodations	The rationales provide evidence-based support for the specific adaptations and accommodations and the relationship of the adaptations and accommodations

meets diverse learning needs. <i>InTASC 7(k)</i>	to student educational needs is missing or unclear .	accommodations to student educational needs is unclear .	to student educational needs is clearly identified .	to student educational needs is clearly and thoroughly identified.
Section 5 Assessment and Documentation of Student Progress				
The candidate designs assessments that match learning objectives with assessment methods and minimizes sources of bias that can distort assessment results. <i>InTASC 6(b)</i>	The candidate does not describe an assessment plan that that evaluates all student learning objectives or describes a plan that does not directly measure all of the student learning objectives (e.g., is not observable, measurable).	The candidate describes an assessment plan that evaluates all student learning objectives but does not include documentation of both formative and summative measures that does not address possible assessment bias.	The candidate describes an assessment plan that evaluates all student learning objectives and includes both formative and summative assessments that minimize sources of bias. The candidate describes the assessment results that would prompt modification of instructional plans and those specific modifications.	The candidate describes an assessment plan that evaluates all student learning objectives, includes formative and summative assessments that minimize sources of bias and includes multiple data sources for each objective. The candidate describes multiple assessment results that would prompt modification of instructional plans and those specific modifications.