

George Mason University
College of Education and Human Development
Secondary Education

SEED 672.001 – Advanced Methods of Teaching Mathematics in the Secondary School
3 Credits, Spring 2024
Mondays 4:30-7:10, Horizon 4012, Fairfax Campus

Faculty

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Prerequisites/Corequisites

Required Pre-requisites: SEED 572 (requires minimum grade of B)

Required Co-requisite: EDRD 619 and SEED 672

Recommended Pre-requisites: SEED 522 (requires minimum grade of B) and SEED 540 (requires minimum grade of B)

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 hybrid format of both face-to-face seminar and online (76% or more) using a synchronous format via Blackboard Learning Management system (LMS) housed in the MyMason portal. You will log in to the Blackboard (Bb) course site using your Mason email name (everything before @masonlive.gmu.edu) and email password.

All SEED classes have designated delivery modes and specific modes for each class session (e.g., face-to-face, virtual synchronous, virtual asynchronous). The majority of SEED classes are held in a face-to-face mode. Students are expected to attend every class session in the mode it is offered. If you must miss a class session for illness or another valid reason, you are expected to proactively communicate (ahead of the class session) with your instructor about your expected absence.

Under no circumstances, may candidates/students participate in online class sessions (either by phone or Internet) while operating motor vehicles. Further, as expected in a face-to-face class meeting, such online participation requires undivided attention to course content and communication.

Technical Requirements

To participate in this course, students will need to satisfy the following technical requirements:

- High-speed Internet access with standard up-to-date browsers. To get a list of Blackboard's supported browsers see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#supported-browsers

To get a list of supported operation systems on different devices see:

https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support#tested-devices-and-operating-systems

- Students must maintain consistent and reliable access to their GMU email and Blackboard, as these are the official methods of communication for this course.
- Students will need a headset microphone for use with the Blackboard Collaborate web conferencing tool.
- Students may be asked to create logins and passwords on supplemental websites and/or to download trial software to their computer or tablet as part of course requirements.
- The following software plug-ins for PCs and Macs, respectively, are available for free download:
 - Adobe Acrobat Reader: <https://get.adobe.com/reader/>
 - Windows Media Player: <https://support.microsoft.com/en-us/help/14209/get-windows-media-player>
 - Apple Quick Time Player: www.apple.com/quicktime/download/

Expectations

- Course Week:
Our course week will begin on the day that our synchronous meetings take place as indicated on the Schedule of Classes.
- Log-in Frequency:
Students must actively check the course Blackboard site and their GMU email for communications from the instructor, class discussions, and/or access to course materials at least 3 times per week. In addition, students must log-in for all scheduled online synchronous meetings.
- Participation:
Students are expected to actively engage in all course activities throughout the semester, which includes viewing all course materials, completing course activities and assignments, and participating in course discussions and group interactions.
- Technical Competence:
Students are expected to demonstrate competence in the use of all course technology. Students who are struggling with technical components of the course are expected to seek assistance from the instructor and/or College or University technical services.
- Technical Issues:
Students should anticipate some technical difficulties during the semester and should, therefore, budget their time accordingly. Late work will not be accepted based on individual technical issues.
- Workload:
Please be aware that this course is **not** self-paced. Students are expected to meet *specific deadlines* and *due dates* listed in the **Class Schedule** section of this syllabus. It is the student's responsibility to keep track of the weekly course schedule of topics, readings, activities and assignments due.
- Instructor Support:
Students may schedule a one-on-one meeting to discuss course requirements, content or other course-related issues. Those unable to come to a Mason campus can meet with the instructor via telephone or web conference. Students should email the instructor to schedule a one-on-one session, including their preferred meeting method and suggested dates/times.
- Netiquette:
The course environment is a collaborative space. Experience shows that even an innocent remark typed in the online environment can be misconstrued. Students must always re-read their responses carefully before posting them, so as others do not consider them as personal offenses. *Be positive in your approach with others and diplomatic in selecting your words.* Remember that you are not competing with classmates, but sharing information and learning from others. All faculty are similarly expected to be respectful in all communications.
- Accommodations:

Online learners who require effective accommodations to insure accessibility must be registered with George Mason University Disability Services.

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 (National Council of Teachers of Mathematics NCTM & Interstate Teacher Assessment and Support Consortium INTASC)

This course aligns to the professional standards as outlined by the Interstate Teacher Assessment and Support Consortium (INTASC) and the National Council of Teachers of Mathematics (NCTM). Upon completion of this course, students will have met certain elements the INTASC standards 1, 2, 6, and 7 and all of the NCTE standards.

Interstate Teacher Assessment and Support Consortium (INTASC)

INTASC Standard 1. Learner Development

The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

INTASC Standard 6. Assessment

The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

INTASC Standard 7. Planning for Instruction

The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

National Council of Teachers of Mathematics (NCTM)

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

Berry, R. Q., Conway, B. M., Lawler, B. R., & Staley, J. W. (2020). *High school mathematics lessons to explore, understand, and respond to social injustice*. Corwin.

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

Course Performance Evaluation

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

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

Assessment	Percentage of Grade
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In-Class Participation and Preparation	10%
Additional Weekly Assignments	15%
Assessment Assignment	20%
Micro-Teaching	15%
Field Work Assignment	15%
Unit Plan Assignment & Individualized Learning Plan	25%

Participation and Preparation

A commitment to participation in class discussions and course activities depends heavily and primarily on the regular attendance and participation of all involved. Participation will include taking part in discussions informed by critical reading and thinking, leading discussions about selected mathematics problems, and sharing with the class the products of various writing, reflection, lesson planning, and field experience assignments. The expectations, demands and workload of this course are professional and high. This requires students to consider number systems and number theory using different strategies and a variety of manipulatives and resources. During math work time, students should be developing strategies and non-traditional algorithms for the entire work time or discussing and sharing algorithms with each other. During math-talk and discussion times, students should be actively engaged by voicing their thoughts and connecting to topics presented during the discussion.

Participation in this course requires a commitment to reading reflectively and critically the assigned readings. The readings will be used to provide a framework and coherent theme to the course content. They have been selected to introduce themes in professional development as well as research and critical commentary on current issues in mathematics education.

Due Dates

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. Weekly assignments and Microteaching will not be accepted after the deadline. Grades will be submitted on May 6, 2023. Any assignments not submitted by this date will receive a grade of 0.

- **Assignments and/or Examinations**

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.

- **Attendance and Participation**

In accordance with the GMU Attendance Policies (University Catalog, 2023-2024), “Students are expected to attend the class periods of the courses for which they are registered. In-class participation is important not only to the individual student, but also to the class as a whole. Because class participation may be a factor in grading, instructors may use absence, tardiness, early departure, or failure to engage in online classes as de facto evidence of nonparticipation.” See <https://catalog.gmu.edu/policies/academic/registration-attendance/#ap-1-6>.

If you must be absent from class, inform the instructor prior to the beginning of the class session. Missed classes (or portions of classes) will result in loss of participation points. Unless there are extenuating circumstances that have been shared with the instructor, more than two missed classes will result in a failing grade, and you must retake the course if you wish to earn credit.

Absence from class to observe a religious holiday, to serve jury duty, or to participate in required military service are exemptions to the above policy. If you anticipate being absent for any of these reasons, please make arrangements at least 48 hours in advance. See <https://catalog.gmu.edu/policies/academic/registration-attendance/#ap-1-6-1>

In addition, you are expected to be on time to class each week unless 48 hours advance notice has been provided to the instructor.

- **Attendance and Participation**

Use of Generative-AI tools should be used following the fundamental principles of the Honor Code. This includes being honest about the use of these tools for submitted work and including citations when using the work of others, whether individual people or Generative-AI tools.

Generative-AI tools are allowed on assignments with proper citation. Use of these tools without proper citation on any assignment will be considered a violation of the academic integrity policy. All academic integrity violations will be reported to the office of Academic Integrity. Some student work may be analyzed using an originality detection tool focused on AI tools.

- **Grading**

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

A = 95-100%

A- = 90-94%

B+ = 87-89%

B = 83-86%

B- = 80-82%

C = 70-79%

F = Below 70%

Note: B- or below is not a passing course grade for licensure

Professional Dispositions

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

Class Schedule

Note: Faculty reserves the right to alter the schedule as necessary, with notification to students.

Weekly readings will be assigned and differentiated by student. Please see blackboard for weekly reading assignments.

Date	Topic	Activity or Assignment Due
Class 1 January 22	Staging the Big Picture: Looking Back and Looking Ahead	
Class 2 January 29	Facilitating Mathematical Discourse: Questioning Unit Planning	
Class 3 February 5	Facilitating Mathematical Discourse: Questioning	
Class 4 February 12	Assessment Introduction Formative Assessment and Discourse	
Class 5 February 19	Assessment: Formative, Summative, and Alternative	Lesson Plan #1

Class 6 February 26	Assessment: Homework & Final Grades	Clinical Interview Due
Class 7 March 11	Equity Issues in Mathematics Education	Assessment Plan Due
Class 8 March 18	Meeting the Needs of Diverse Learners: Complex Instruction and Groupworthiness	
Class 9 March 25	Meeting the Needs of Diverse Learners: Special Education and ELLs & Gifted	Submit LP#2
Class 10 April 1	Asynchronous Unit Planning	Submit LP#3
Class 11 April 8	Advanced Mathematics: Content and Considerations	Submit LP#4
Class 12 April 15	Advanced Mathematics: Content and Considerations	Submit LP#5
Class 13 April 22	Being a Member of the Mathematics Community Mango problems Algebra Manipulatives	Unit Plan Project Due
Class 14 April 29	Summing up	Field Experience Project Due

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 <https://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

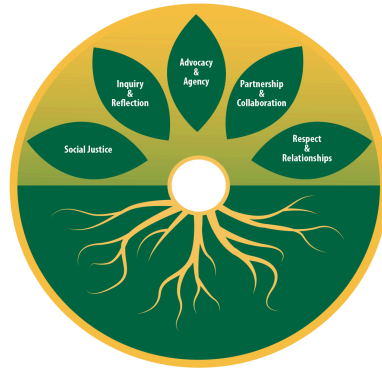
- Support for submission of assignments to VIA should be directed to viahelp@gmu.edu or <https://cehd.gmu.edu/aero/assessments>. Questions or concerns regarding use of Blackboard should be directed to <https://its.gmu.edu/knowledge-base/blackboard-instructional-technology-support-for-students/>.
- For information on student support resources on campus, see <https://ctfe.gmu.edu/teaching/student-support-resources-on-campus>

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/> .

The Secondary Education (SEED) Program “Seeds”



As illustrated by the model above, the SEED program is guided by five “Seeds” or principles that students are expected to understand and learn to apply in their teaching and professional lives: Social Justice, Inquiry and Reflection, Advocacy and Agency, Partnership and Collaboration, and Respect and Relationship. SEED students address each Seed in a developmental fashion, twice during their licensure program and once again during the master’s teacher research capstone experience:

- Each Seed is introduced and students demonstrate initial understandings and consider initial applications to teaching of the Seeds (as determined by the program, the course instructor, and individual students) during one of the five pre-licensure courses (Foundations, Methods I, Human Development, Methods II, Content Literacy)
- All five Seeds are revisited and students demonstrate deeper conceptual understandings of and identify applications to their teaching of the Seeds (in a manner they determine) during internship and internship seminar
- All five Seeds are explored more deeply, and students demonstrate mastery understandings of, applications to their teaching and teaching inquiries (via their teacher research Methodologies), and future integrations of the Seeds into their teaching and teaching inquiries (via their teacher research Discussions)

Course	Seed/Definition	Key Assignment Description
Foundations of Secondary Education	<p style="text-align: center;">Advocacy and Agency</p> <p>The SEED program educates teachers to develop a commitment to advocating for and developing agency in every young person. Teachers’ advocacy activities begin with pedagogical interactions and extend into school and community contexts. Similarly, teachers’ consideration of youths’ agency begins with enabling them to act independently and make choices in their own best interests—in the classroom and beyond.</p>	<p style="text-align: center;">Teacher Candidate Digital Portfolio</p> <p>This digital portfolio is a website the teacher candidate creates to begin assembling products and artifacts that illustrate their emerging philosophy of teaching, experiences designing instructional materials, interviews and reflections from clinical experiences, and professional documents such as resumes and work experience. Pieces that teacher candidates add to the digital portfolio demonstrate their agency as educators inside and outside of classrooms, candidates’ advocacy of critical issues relevant to secondary education, and candidates’ thinking on how educators, their learners, policy makers, and community members all have different agency in making choices related to secondary education.</p> <p>Note: Students will also be asked to identify what <u>they</u> consider to be evidence of their understanding/application of this Seed, in course, program, and professional projects and activities.</p>
Methods I	<p style="text-align: center;">Social Justice</p> <p>The SEED program educates teachers to develop a commitment to social justice. Such a commitment encompasses the belief that all members of our school, university, and broader communities can contribute to disrupting inequitable interactions, practices, and structures, with a focus on enhancing each individual’s opportunity to learn and succeed. Social justice is also closely aligned with “equity,” which involves the implementation of anti-oppressive and antiracist</p>	<p style="text-align: center;">Lesson Plan</p> <p>Using a provided format, the lesson plan must include objectives, standards, instructional plans, assessments, classroom layout(s), a teacher script, and all materials that would be given to students as part of the lesson. The lesson must demonstrate the teacher candidate’s ability to integrate justice concepts/content into their instruction.</p>

	<p>interactions, practices, and structures that ensure that every individual has an unbiased, impartial, responsive, and appropriately scaffolded opportunity for academic and professional success.</p>	<p>Note: Students will also be asked to identify what <u>they</u> consider to be evidence of their understanding/application of this Seed, in course, program, and professional projects and activities.</p>
<p>Human Development and Learning</p>	<p>Relationships with and Respect for Youth The SEED program educates teachers to develop relationships with and respect for youths. When a school culture promotes respect, support for students’ identities, senses of belonging, and tolerance, students are able to work as active participants in the classroom and the community. Secondary teachers who create a welcoming environment in their classrooms; who strive to know and honor students’ backgrounds, preferences, and perspectives; who build relationships with young people based on trust and mutual understanding; and who connect curriculum to students’ cultures hold key to effective instruction. Their instruction will contribute to developing unique individuals who will be able to connect their life experiences to learning.</p>	<p>Case Study/Student Application Project The case study/student application project is a summative assessment of the teacher candidate’s ability to use psychological theory to analyze problems in a classroom and practice approaches a thoughtful, ethically principled teacher would use to solve problems. The case study/student applicant project must demonstrate the teacher candidate’s understanding of how and why teachers can use psychological theories and principles to develop relationships with and demonstrate respect for youths, with an ultimate goal of enhancing adolescents’ school and life success. Note: Students will also be asked to identify what <u>they</u> consider to be evidence of their understanding/application of this Seed, in course, program, and professional projects and activities.</p>
<p>Methods II</p>	<p>Inquiry and Reflection The SEED program educates teachers who appreciate and know how to ask questions about their practices and who are critically reflective of their pedagogies, empowered by evidence. The ability to inquire and reflect on one’s teaching practice is foundational to educators’ ongoing and self-directed professional growth across their professional lifespans. Educators who can inquire into and consistently implement effective instructional practices--and who can critically reflect on and evaluate their pedagogies--will be the most responsive teachers and will best inspire students to learn.</p>	<p>Unit Plan/Lesson Implementation Teacher candidates will use the “backwards design” process to develop a plan for teaching a unit which actively involves students in meaningful learning; individualizes learning to accommodate the strengths and needs of students; and provides authentic assessments. Unit plans will include objectives, a calendar, and an outline of each day in the unit. One lesson of the unit must be taught/co-taught in the teacher candidate’s clinical experience classroom, and the unit plan and lesson implementation must demonstrate the candidate’s understanding of how and why teachers use inquiry and reflection to improve their pedagogical practices and enhance student learning. Note: Students will also be asked to identify what <u>they</u> consider to be evidence of their understanding/application of this Seed, in course, program, and professional projects and activities.</p>
<p>Content Literacy</p>	<p>Collaboration and Partnership The SEED program educates teachers who value collaborative engagement in learning and teaching and supporting collaboration through different forms of partnership. Collaboration takes on many forms, including collaboration amongst teacher candidates and their peers, course instructors and faculty advisors, mentor teachers in schools, their students and their students’ families and caregivers, and amongst experts in their fields of teaching. These collaborations occur</p>	<p>Disciplinary Literacy Inquiry Project Teacher candidates complete an inquiry into methods of supporting students’ comprehension in their respective content areas. Using resources from class and peer-reviewed articles, candidates develop an understanding of how to guide and deepen students’ comprehension, addressing questions including “Why is it important to be literate in our respective subject areas?”. The inquiry project must demonstrate the candidate’s understanding of how and why teachers collaborate with other education professionals,</p>

	<p>through a shared understanding of partnership. By spanning multiple boundaries, the SEED program supports partnerships with local schools and their divisions, with state and national professional associations, and with international experiences in other countries.</p>	<p>students, families and caregivers and others to support students' subject area comprehension and literacy learning.</p> <p>Note: Students will also be asked to identify what <u>they</u> consider to be evidence of their understanding/application of this Seed, in course, program, and professional projects and activities.</p>
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Internship and Internship Seminar	<p style="text-align: center;">All SEED Seeds: Applications to Teaching</p> <p>All five Seeds are revisited and students demonstrate deeper conceptual understandings of and identify applications to their teaching of the Seeds during internship and internship seminar.</p>
Teacher Research (for Master's students only)	<p style="text-align: center;">All SEED Seeds: Applications to Teaching and Teaching Inquiries</p> <p>All five Seeds are explored more deeply, and students demonstrate mastery understandings of, applications to their teaching and teaching inquiries (via their teacher research Methodologies), and future integrations of the Seeds into their teaching and teaching inquiries (via their teacher research Discussions)</p>