



**NEW YORK INSTITUTE OF TECHNOLOGY
SCHOOL of EDUCATION
Master of Science in Instructional Technology**

**Math, Science and Technology in Education II
EDSC626**

Instructor's information

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Course information

Course number and section: MSIT II FFT1 **Credits:** 3

Prerequisites and co-requisites: EDSC 625 (EDMA 625)

School of Education Conceptual Framework

Diversity

Our commitment to diversity is evident in all we do. Our candidates learn to recognize the individual needs of diverse P-12 student populations and to create and customize educational experiences necessary for success in the 21st century global environment.

Technology

Our commitment to technology integration is woven seamlessly through our beliefs and actions. Technology is an integral part of our curriculum, pedagogy and delivery systems. Our candidates learn to make meaningful connections between technologies and their applications for all learners.

Field Relations

Our commitment to collaboration with schools, agencies, community organizations, businesses, and policymakers enriches our programs, our candidates, our partners, and the educational community.

REQUIRED TEXT

"Science for All American," by F. James Rutherford and Andrew Ahlgren (ISBN #0- 1 9- 50677 1-1). You do not need to purchase a hardcopy of this book: it is available for free online at: <http://www.project2061.org/publications/sfaa/online/sfaatoc.htm>. Please use the online version if possible. Topics in this book will be referred to at various times during the course. Topics from the book may constitute quizzes given at any time during the course. Candidates are also encouraged to read at least one other book from the book list, look up journal articles related to topics of interest and take notes from these during the semester to facilitate and broaden their knowledge and discussions on the discussion board. Candidate's understanding of prevailing literature will be a factor in evaluating projects and online discussions.

MATERIALS AND SUPPLIES

1. **Software:** The candidate must have access to a level 6 Web browser and Adobe Acrobat Reader 6 or better. Also the ability to read AND AUTHOR Microsoft Office files (.docx, .xlsx, and .pptx fomats). PLEASE MAKE SURE THAT ALL UPDATES HAVE BEEN DONE TO YOUR SOFTWARE BEFORE THE SEMESTER COMMENCES. If you are using Linux/OpenOffice, or other office type environments, you will need to translate any documents you post to Microsoft Word, PowerPoint, or Excel format for others to be able to view them.
2. **Computer:** A Macintosh System X or Windows 8/10 notebook or desktop computer and reliable, daily access to the Internet.
3. **Taskstream Account (www.taskstream.com):** Taskstream is the portfolio assessment tool used for this course. All major assignments must be uploaded in Taskstream for assessment. The portfolio grades are then transferred to Blackboard and become part of the cumulative grade. Information for acquiring a Taskstream account is on the home page and also available as a PDF in Blackboard under Course Documents. If you already have an account then you have met the requirement. **NOTE: A final grade will not be given until completed major assignments are uploaded into Taskstream.**

COURSE DESCRIPTION FROM CATALOG

Candidates integrate mathematics, science, and technology with inquiry based teaching and learning aligned with national and state standards. Candidates explore issues, resources, technologies and methods to create integrated MST experiences and plan effective lessons for diverse student population. Candidate will investigate appropriate assessment strategies and the application of various technologies and web resources. Field experiences are required and integrated into the course. *Prerequisite:* EDSC 625 (EDMA 625).

MASTER OF SCIENCE INSTRUCTIONAL TECHNOLOGY PROGRAM OUTCOMES

Alignment with International Society of Technology for Educators (ISTE) Standards for Coaches (NETS-C) and New York Educational Technology Specialist Framework (NYETS)

Teaching, Learning and Assessments

MSIT 2 - The candidate will meet the needs of all learners by aligning learning environments and experiences with standards outlined in the all applicable local, national and international educational technology standards for students. (ISTE-C 2.a.; NYETS 0004)

MSIT 3 -The candidate will use student performance data to inform instruction and promote meaningful learning to a wide audience. The candidate will use effective data-driven instructional methods and strategies for teaching digital-age concepts and skills that address content and technology standards and that foster student learning, creativity, communication, collaboration, and critical thinking. (ISTE -C 2.a, 2.c, 2.d, 2.g, 2.h; NYETS 0005)

MSIT 4 - The candidate will apply knowledge of how to support teachers in integrating technology into the curriculum to enhance the effectiveness of global interdisciplinary instructional units. The candidate will apply skills for differentiating learning in a technology-enhanced environment that maximizes learning for all students. (ISTE -C 2.b, 2.c, 2.e, 2.g, 2.h, NYETS 0007)

MSIT 5 - The candidate will assist teachers in using digital age technology effectively for assessing student learning, differentiating instruction, and providing rigorous, relevant, and engaging real-world learning experiences for all students. (ISTE -C 2.e, 2.f, 2.h)

Digital Age Learning Environments

MSIT 6 - The candidate will demonstrate knowledge of existing and emerging technology resources that are used to support student learning, personal learning, and professional development in diverse learning environments. The candidate will demonstrate uses of digital tools and resources and apply features of these tools to facilitate communication, collaboration, research, and problem solving in a global community. (ISTE -C 3.c, 3.g, NYETS 0002)

MSIT 7 - The candidate will design, create, and maintain effective technology-enhanced learning environments and experiences that maximize content learning in context. (ISTE -C.3.a, 3.b)

MSIT 8 - The candidates will apply knowledge of the characteristics and functions of a broad range of technology resources to identify and troubleshoot common technology-related problems encountered in educational settings and infrastructures. (ISTE -C 3.b, 3.c, 3.d, 3.e, 3.f, NYETS 0001)

Professional Development and Program Evaluation

MSIT 9 - The candidate will design, develop and implement technology-related professional learning programs, and assess their impact on instructional practice and student learning. (ISTE -C 4.a, 4.b, 4.c)

MSIT 10 - The candidate will lead the transformation of the instructional environment by advocating for the development and implementation of technology infrastructure, procedures, plans, budgets, and professional development programs that promote excellence. (ISTE -C 4.c)

Digital Citizenship

MSIT 11 - The candidate will model and promote digital citizenry; the legal, ethical, responsible, and appropriate use of technology resources and digital information; social and human issues related to technology; and the use of technology to facilitate learning and develop a sense of global community. (ISTE -C 5.a, 5.b, 5.c; NYETS 0003)

Content Knowledge and Professional Growth

MSIT 12 - The candidate will demonstrate a commitment to lifelong learning, reflection and growth in content, pedagogy, and expertise with technology integration as well as adult learning and leadership. (ISTE -C 6.a, 6.b, 6.c)

COURSE GOALS

Integrating science, technology, engineering and mathematics (STEM) into the K-12 school experience is critical to providing students with relevant, inquiry-based learning approaches that facilitate development of critical thinking and problem-solving skills and are aligned with NYS standards. Such integrated approaches reflect the life experiences that await students and help to create lifelong learners. In this course, candidates explore the issues, resources, and methods in creating integrated STEM experiences. These include understanding how to research, plan and develop effective lessons facilitating STEM experiences that address the diversity of students and collegiality. Crucial to this will be an investigation and application of appropriate assessment strategies and applications of information technologies. To successfully study the integration of STEM, candidates research and analyze curriculum integration as proposed in the literature and practiced in the field. Candidates will thoroughly plan a professional development workshop and analyze it.

1. Candidates will demonstrate the understanding of process and methods for science, technology, engineering and mathematics integration within P-12 teaching and learning practice.
2. Candidates will create an interdisciplinary professional development workshop for a target area of need demonstrating principles of integrating technology and differentiating learning.

Learning Outcomes (aligned to standards) and instruments of assessment. Upon successful completion of this course, students will be able to:

1. Incorporate the use of technology to enhance instruction in mathematics and science. (MSIT 2).
2. Use scientific, mathematical and technological reasoning to analyze situations, make conjectures, gather evidence and construct an argument. (MSIT 3 & 5).
3. Create interdisciplinary units of instruction in mathematics, science, and technology aligned with regional and national standards and assessments. (MSIT 2 & 3).
4. Create appropriate assessment protocols for evaluating learning outcomes and differentiating instruction in mathematics, science and technology. (MSIT 3 & 4).
5. Apply learning strategies to meet the needs of diverse students. (MSIT 3 & 4).
6. Appropriately apply, model and assist other teachers in constructivist principles and inquiry-based instructional strategies in mathematics, science and technology. (MSIT 6 & 9).
7. Use and model appropriate software tools to enhance the teaching and learning of mathematics, science, and technology. (MSIT 8).
8. Use appropriate online tools and resources to support professional development. (MSIT 9, 10, & 11).
9. Demonstrate content skills in physical and biological sciences identify promising and successful practices via field experiences/observations. (MSIT 9 & 12).

10. Use web-based technology and tools for the development and delivery of instructional materials that are designed to meet target needs of diverse student populations and assist other teachers in using web-based tools for teaching and learning. (MSIT 9, 11 &).
11. Use content-specific technology and/or tools and develop learning environments for integration in the classroom to meet the target needs of diverse student populations (MSIT 6, 7 & 8).
12. Evaluate the effectiveness of instructional materials that integrate technology to meet the needs of diverse student populations (MSIT 3).

COURSE REQUIREMENTS

All components listed below are graded on a point system and weighted as indicated by the number of points for each requirement. The cumulative points for all assignments are 200.

Major Assignments:

1. *KEYSTONE: Professional Development Workshop Plan: Science Instruction (40 points)*

The candidate will create a professional development workshop plan for teachers that supports technology use in science instruction in P-5, 6-8 or 9-12 learning environments and will help teachers understand hands-on instructional technology, inquiry based science activities and collaborative learning strategies. The candidate must demonstrate the understanding of the integration of technology and inquiry-based/problem-based/design-based learning in the development of this teacher workshop. The candidate will articulate state and local standards and differentiation for diverse learners as applicable and most importantly, address the needs of adult learners, and include an evaluation plan. **This is the Keystone Assignment. It demonstrates the candidate's synthesis of cumulative skills and knowledge for the course as a whole.**

****The submission of keystone assignments is both a course and program requirement. All designated keystone assignments must be submitted into Taskstream. Failure to submit will result in an automatic reduction of one full letter grade from the final course grade.**

No exceptions will be granted.**

This assignment can either be authored in Taskstream and linked to the Keystone section of your Taskstream portfolio, or take the form of an MS-Word file or PDF and be uploaded as an attachment in the Keystone section in your Taskstream portfolio. **Optionally, a rough draft of this project can be provided by Week 13 for feedback in the appropriate Blackboard discussion forum.** Candidate will then upload the final project document into Taskstream as follows Early Childhood Majors upload to KEYSTONE 1, Childhood Majors upload together with STEM Lesson Plan into the KEYSTONE-STEM LESSON DEVELOPMENT section and Adolescent Education Majors Upload to STEM LESSON PLAN DEVELOPMENT section of Taskstream for final assessment.

2. *Leadership Project: Discussion of Research Article (30 points)*

Candidates will each select a different research article to share with the class dealing with one of the following topics.

- Alternate assessments in science,
- Virtual science projects on the Web,
- Science for citizenship,
- Differentiated science instruction,
- Science for young students: what's the point?

- Use of simulations and analogs vs. hands-on in science learning,
- Goals and rationale of science instruction,
- Integrating science with other disciplines,
- Informal vs. formal science learning environments,
- A suggested topic approved by the instructor.

A minimum five-slide PowerPoint presentation must be accompanied by and uploaded PDF or link to the article being summarized. The presentation must be formatted as if you were giving it to a live audience (although it will be evaluated and viewed only online). In the notes pane of the presentation (or in a separate document) you should include any additional narrative you would use for the presentation of each slide if it were being given live to a group. The following guide should be used for completion of the presentation:

Slide 1: Title of article, authors, person submitting the article,

Slide 2-3: Summary of the article: two brief paragraphs summarizing the article (1 paragraph per slide),

Slide 4: Significant quotes from the article (could be used to guide questions in slide 5),

Slide 5: Three open-ended questions for eliciting the class's thought/perspectives on the key aspects of the article.

Each candidate will be assigned a due date for their Leadership Project by the third week of class. Projects will begin on week 6. A forum will be provided to upload a draft their project to Blackboard for peer critiquing with an opportunity to revise before upload to Taskstream for final assessment at the end of the semester. Candidates will enter this project into the RESEARCH ARTICLE PRESENTATION section of Taskstream.

3. STEM Lesson Plan Development (30 points).

The candidate will create an interdisciplinary science lesson plan for classroom instruction in an area of interest that will be inquiry-based and will demonstrate the candidate's ability to integrate technology into math, science and engineering. The candidate will articulate how technology integration is useful to the instructional approach and how it enhances learning. The candidate will also articulate how the lesson plan addresses diversity, standards, and must include an authentic assessment rubric. This assignment can either be authored in Taskstream and linked to the Technology Skills section of your Taskstream portfolio, or take the form of an MS-Word file or PDF and be uploaded as an attachment in document form along with any resources, links, etc. If you are an Early Childhood major, this plan must be uploaded to the KEYSTONE 2 area in Taskstream. If you are a Childhood Education major, it must be uploaded into the KEYSTONE-STEM LESSON DEVELOPMENT section along with your Professional Development Workshop Plan.

Optionally, a draft of this project can be submitted to the appropriate forum in Blackboard for feedback by class 12 beforehand.

Field Experience and Field Experience Journal (20 Points).

A minimum of 10 hours of field observation is required in this course. This can be a combination of observation and participation in a STEM or science classroom, workshop and/or observation and participation in professional development for science teachers or observation at an informal science learning venue (science center, museum, zoological or botanical garden, nature center, etc.). These times must be documented with appropriate signatures with the time log provided at the beginning of the semester (available on Blackboard and Taskstream. **In addition**, journal entries, one for each one hour of observation must be completed in a field experience journal. This

is a reflective journal mainly of your thoughts and feelings about your experiences observing learners and not a simple log or recitation of what was done in the learning setting. **The objective is to expand your understanding of STEM learning in a science learning environment from observing the behaviors and actions of teachers and learners. Please choose your observation sites accordingly.** Journals may be collected by the instructor at up to two different times during the semester for review and feedback. Documentation must be submitted to the instructor prior to the last week of class. No grade will be given to a candidate without this documentation. Candidates **MUST** scan documentation with appropriate signatures (required) into Taskstream in the FIELD EXPERIENCE section along with completed journal entries as MS-Word document attachments in Taskstream. NOTE: please seek sites for field observations early in the semester and you are required to coordinate this aspect of the course with the Director of Field Placement and certification (Kristen Schaefer at kschae04@nyit.edu or 516-686-1286). There are no exceptions this requirement. Your field experience must take place during the period of this course. If you have any doubt about the acceptability of a field observation environment, please contact your EDSC 626 course instructor or Director of Field Placement. **This assignment is due week 14.**

Weekly Course Requirements

The Discussion Board in Blackboard is where you put all of your regular weekly assignments, participate in discussions, and provide reflections on the course. Every post to the discussion board is graded and becomes part of your overall grade at the end of the semester. Grading is according to the grading rubric below. The spirit of these discussions is to create the online equivalent to live classroom discourse. When posting, it is important to be clear, concise and articulate, and edit for spelling, punctuation and typographical errors.

1. Weekly Assignments (50 points)

Weekly assignments will take many forms. Some will be responses to questions about "e-lectures" provided by the instructor, others will be related to online tutorials or readings. Candidates are required to provide a specific written response to each assignment. These must be posted in a timely way by the candidate in a forum provided in Blackboard. Assignments will be graded according to relevance, demonstration of knowledge about the week's topic and timing (must be complete by the end of the week assignment is given). A grade for each week's assignments is entered into the Grading Center of Blackboard.

2. Participation (25 points)

In addition to the postings for weekly assignments, Candidates will be expected to prepare and contribute to all discussions taking place in the online forums. This is in addition to weekly assignment postings (which are graded separately) but include discussion about an assignment with their peers. For each posting, candidates must ask themselves the question: how am I contributing to the discourse in this topic? If the candidate agrees or disagrees with another's posting the rationale for that response should accompany it. Online discussion benefits from the contributions each Candidate makes and the resources they provide. Participation is gauged by timeliness of comments, completeness, and scholarliness of discussion board postings. Simply accessing the forums and reading them is not enough. Postings in the discussion board is the only way the instructor has for determining that a candidate is participating and the number and thoughtfulness of postings is what will be used to determine participation grade.

3. Reflections (25 points)

One of the goals of the semester is to have candidates reflect on teaching and learning in science and the integration of technology, and be able to articulate these reflections. Forums will be set up in Blackboard to facilitate this articulation. Each week a forum will be provided specifically for candidate's reflection. This is a free narrative, distinct from regular postings and is intended to give the candidate an opportunity to think about their learning, impressions of the week's topics overall or another topic of their own choosing. Posting reflections is required for each week and is graded.

GRADING RUBRIC

All posts to the discussion board are graded according to the following rubric:

4 points - *High quality, professional, inquiry-based discussion.* The posting provides a framework for discussion through providing a personal reflection, presenting a well articulated dilemma, or raising a thought-provoking question. Posting suggests a reflective capacity. It may be an independent thought garnered from the week's readings, a thought stemming from the reflections of a peer in the course, or providing a relevant and thought provoking comment and reference to the literature.

3 points - *Thoughtful discourse.* The message shares information, and issue or questions in a thoughtful way. A question or issue is raised to explore others beliefs or practices. It may be an independent thought garnered from the week's readings or a thought stemming from the reflections of a peer in the course.

2 points - *Collegial discussion.* Message provides a description of classroom practice, an issue, a dilemma, or challenge that reflects the beliefs or practice of the author but does not contain self-reflection and/or an invitation for others thoughts. It may be an independent thought garnered from the week's readings or a thought stemming from the reflections of a peer in the course.

1 point - *Factual statement.* The message does not seem to stimulate ongoing discussion, reflection, or examination of classroom practice. It may be an independent thought garnered from the week's readings or a thought stemming from the reflections of a peer in the course.

0 points - will be given for one-word responses or spurious postings (such as those containing inflammatory or foul language or irrelevant to discourse).

Final semester grades will be determined by the degree to which the course objectives are met by the candidate and according to rubrics provided for each weekly and major assignment. Correct spelling and grammar, organization, originality and evidence of critical thinking will be included in the assessment. All assignments submitted for evaluation must reflect commitment to success as a teacher. Rubrics are provided for each assignment that will delineate specific expectations. The following grading metric is used for final grades:

90 to 100=A	87 to 90=B+	81 to 86=B	77 to 80=C+	70 to 76=C	Below 70=F
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The numerical grade is what is provided in Blackboard, the corresponding letter grade is required to be entered by the instructor into PeopleSoft within 48 hours of the end of the course. Missing assignment will receive a grade of 0.

COURSE POLICIES

Make-up Exams and Missed or Late Assignments

Because of the interactive nature of this course, candidates must demonstrate participation and turn in assignments on a timely basis. Under extenuating circumstances, an opportunity will be provided for make up of assignments at reduced credit. This is a demanding course and it is important for candidates to pace themselves and keep up with weekly assignments and major assignments.

Attendance

Attendance is calculated by Blackboard and monitored by the instructor and school administration throughout the semester and considered in final grade. This is an online class and students are expected to login and participate at least three times per week. Providing and responding to Discussion Board posts in a considerate, thoughtful and timely manner is required. **A student that has not logged into the course in Blackboard within the first 2 weeks of class is considered “not attending” and will be dropped from the course.**

Incomplete

If a candidate needs additional time to complete a single project, report or final examination it must be officially requested. The grade of incomplete is to be assigned only to students who are otherwise passing the course at the end of the semester. The instructor has the right to refuse the request and may assign a final grade based solely on the work already completed. The grade of incomplete will change to the failing grade if the outstanding course work is not completed in accordance with the schedule in effect at the time it was assigned, regardless of the average the student otherwise maintained in the class. A single short extension of the time period shall be granted only in exceptional circumstances by the vice president for academic affairs. **The grade of incomplete will not be assigned to students with excessive absences, especially when those absences include the final sessions of the course, unless extenuating circumstances have been established.** (See the catalog for additional information.)

Withdrawal

During the first two weeks of class, students may ‘drop’ a class without penalty. After the second week of the semester (second class meeting for cycle courses) students wishing to exit a course may do so by requesting to withdraw from the course from the instructor. The decision to withdraw from a course should be made only after consulting with the course instructor and advisor, as withdrawing from a course may affect financial aid eligibility. Consult with the Office of Financial Aid for more information. To withdraw from a course, the student and the instructor must complete a withdrawal form, and the instructor must submit it to the Office of the Registrar within 48 hours. Upon receipt of the withdrawal a grade will be assigned by the Registrar. Students can withdraw from a course from the end of the add/drop period (second week of the term or second class meeting for cycle classes) through the week before finals to receive a grade of W. The W grade is not included in the computation of the cumulative GPA, but it may affect financial aid eligibility. The withdrawal (W) grade will be assigned to students who officially withdraw from a class according to this schedule. The unofficial withdrawal (UW) grade may be assigned if a student has stopped attending class without officially withdrawing. The W and UW grades are not included in the computation of the GPA, but may affect eligibility for financial aid. Students may not withdraw from classes during the final exam period.

Academic Integrity and Plagiarism

All assignments must be the original work of the student and must be done originally for this course. Failure to comply with these rules will at least result in a zero for the assignment but may also result in failing the course or more severe actions. *Plagiarism* is the appropriation of all or part of someone else's work (such as writing, coding, programs, images, etc.) and offering it as one's own. Plagiarism is a serious offence and all students must follow accepted guidelines for citing the work of others. This includes materials from the World Wide Web. If unfamiliar with the proper use of quotations and indirect quotes, consult an online resource, the APA style manual, or ask the instructor for advice. Missing citations and references is tantamount to plagiarism and will be treated as such. *Cheating* is using false pretenses, tricks, devices, artifices, or deception to obtain credit on an examination or in a college course. NYIT expects all students, faculty, and staff to manifest academic honesty and integrity at all times and acts of plagiarism or cheating will not be overlooked or tolerated. According to NYIT policy, if a faculty member determines that a student has committed academic dishonesty by plagiarism, cheating, or in any other manner, the faculty member has the right to:

- Fail the student for that paper, assignment, project, or exam; and /or
- Fail the student for the course; and/or
- Bring the student up on disciplinary charges, pursuant to the student Code of Conduct.

Data and Data Integrity

Data integrity and reliability are the responsibility of the candidate. Students are strongly advised to use virus protection and maintain a backup copy of all materials and information created for the course. It is further strongly suggested that each candidate's computer also be backed up regularly to some form of external data storage at least once a day to prevent loss of assignments and academic work due to computer failure. Computer failure or lack of access is not an excuse for late or missing assignments. Candidates must have a contingency plan in the case of such failure. Written assignments are to be completed either as direct posts to the discussion board, or using MS Word (.doc;.docx) readable format when posted, and must be submitted electronically to Blackboard; ***no assignments will be accepted in hardcopy or via email.*** All assignments must follow APA style requirements according to The Publication Manual of the American Psychological Association (6th Edition). Please do not use attachments for regular posts unless requested.

Library Resources

All students can access the NYIT virtual library from both on and off campus at www.nyit.edu/library. The same login you use to access NYIT e-mail and NYITConnect will also give you access to the library's resources from off campus. On the left side of the library's home page, you will find the "Library Catalog" and the "Find Journals" sections. In the middle of the home page you will find "Research Guides;" select "Video Tutorials" to find information on using the library's resources and doing research. There are additional Resources related to this course in the "EXTERNAL LINKS" tab on Blackboard.

Support for Students with Disabilities

NYIT adheres to the requirements of the Americans with Disabilities Act of 1990 and the rehabilitation Act of 1973, Section 504. The Office of Disability Services actively supports students in the pursuit of their academic and career goals. Identification of oneself as an individual with disability is voluntary and confidential. Students wishing to receive accommodations, referrals and other services are encouraged to contact the Office of Disability Services as early in the semester as possible although requests can be made throughout the academic year.

WEEKLY CLASS OUTLINE (subject to change)

NOTE: Each week starts on a Wednesday. Weekly Assignments are due by Midnight Tuesday. Candidates are advised to submit Weekly Assignments on Friday to maximize participation.

Week (Unit) One (9-9):

- Ground rules for the course
- Candidate Introductions
- Introduction to course tools
- Overview of major assignments
- Resource materials for course
- Weekly reflection in forum

Week (Unit) Two (9-16):

- Defining STEM integration process, problems and issues
- Technology as tool, role in science
- What is inquiry-based learning?
- Weekly reflection in forum

Week (Unit) Three (9-23):

- Constructivist/Constructionist learning – technology as process
- Project, problem, and inquiry-based learning
- Developmental issues, science learning and epistemology
- Lifelong learning
- Weekly reflection in forum

Week (Unit) Four (9-30):

- Educational objectives (Bloom's Taxonomy) and assessment
- Behavioral objectives
- Professional development/leadership
- Weekly reflection in forum

Week (Unit) Five (10-7):

- Theories of multiple intelligences
- Cultural and functional diversity
- Special student populations
- Weekly reflection in forum

Week (Unit) Six (10-14):

- Differentiated instruction
- Understanding and addressing learning modalities
- Leadership article presentation
- Weekly reflection in forum

Week (Unit) Seven (10-21):

- Digital Learning communities and conviviality
- Classroom strategies and topologies
- Leadership article presentation
- Weekly reflection in forum

Week (Unit) Eight (10-28):

- Formal vs. informal science education
- Leadership article presentation
- Weekly reflection in forum

Week (Unit) Nine (11-4):

- Assessment, evaluation and technology/authentic assessment
- Leadership article presentation
- Weekly reflection in forum

Week (Unit) Ten 11-11):

- Leadership article presentation
- Weekly reflection in forum

Week (Unit) Eleven (11-18):

- Major Assignments
- Final weekly reflection of the course

Week (Unit) Twelve (11-25):

- Draft of lesson plan project due
- Major Assignments

Week (Unit) Thirteen (12-2):

- Major Assignments
- Draft of Keystone Assignment due

Week (Unit) Fourteen (12-9):

- Major Assignments
- Field Experience Documentation due (Childhood Education/Adolescent Science Majors)

Week (Unit) Fifteen (12-16):

- Final versions of Major Assignments due
- Make ups; extra help
- Final upload of all assignments to Taskstream for assessment.

****The last day of class is December 23.**

Assignments not submitted for grading by this date will not be included in final grade**