

EDUC 406

Science Methods and Materials-Elementary/Early Childhood

Michelle Langan

Fall 2014

Wednesday, 5:00-6:50

Prerequisites: Admission into the Teacher Education Program

Required Textbook: Elementary Science Methods: A Constructivist Approach, 6th Edition, Martin, David Jerner

Catalog Description: This course addresses the philosophy, content, and pedagogy of science, covering the scientific methodologies of the indigenous and western sciences. Emphasis is also on the implementation of developmentally appropriate methodologies that include applications of national and state science standards.

Methods of Instruction: Students will be participating in lecture, collaborative project work, lesson planning, and independent research review during the duration of this course.

Class Participation: Attending this class is mandatory. Although there are times when emergencies arise, continuous absences will impact your grade. Points are given for collaborative work, which will be done the majority of the time in class.

Rationale: This course is required for the Early Childhood and Elementary Education curriculum.

Course Goals: This course addresses the basic content areas of life science, physical science, and earth science for the purpose of development of a general understanding of the integration of chemistry, physics, and astronomy.

Disability Statement: If you have medical information to share with me, if you need special arrangements in case the building must be evacuated, or if you need accommodations in this course because of a disability, please reach me at my email (listed above). If you plan to request disability accommodations, you are expected to register with the Dean of Student Services.

Academic Integrity: Every student is expected to complete his/her own work. Plagiarism and or enabling cheating on exams will result in zero grades, and for addition action, please refer to TMCC policy on these and related matters.

Disclaimer Statement: The instructor reserves the right to modify the syllabus in the event of any extraneous events.

GenEd Outcomes: Science, Mathematics, Technology, Critical Thinking, and Culture/Diversity

Course	ND Standards	INTASC Standards	AI Standards Sci. Ed	AI Standards for Sci. Ed.	Outcomes	
<p>EDUC 406 Science Methods and Materials for Elementary Education (2) Lecture 2 Hours Wednesday 5:30-6:50</p>	<p>50015.2a The program requires the study of central concepts, tools of inquiry, and structures of content. Candidates know, understand, and use the central concepts, tools of inquiry, and structures of content for students across the elementary grades and can create meaningful learning experiences that develop students' competence in subject matter and skills for various developmental levels.</p> <p>50015.2f The program requires the study of the arts. Candidates know, understand, and use—as appropriate to their own knowledge and skills—the content, functions, and achievements of dance,</p>	<p>INTASC Standards #s 2, 4, 5, 6, 7, 8</p>	<p>Students have the ability to articulate examples of the scientific inquiry necessary to develop and improve technologies employed by early AI.</p> <p>Students understand the principle of change of properties in materials applied in the daily activities of early Indians.</p>	<p>Mid-Term (1) Lesson Plans (3) Final Plan (1) Final Exam</p>	<p>Students will recognize the central content areas of science and the direct application to everyday life.</p> <p>Students will apply their knowledge of science to develop active, engaging, age-specific learning experiences.</p> <p>Students will analyze current research findings regarding student learning and science.</p> <p>Students will develop skills in evaluating student engagement and application of scientific concepts in the classroom.</p>	

	<p>music, theater, and the several visual arts as primary media for communication, inquiry, and insight among elementary students.</p> <p>50015.2i The program requires the study of connections across the curriculum. Candidates know, understand, and use the connections among concepts, procedures, and applications from content areas to motivate elementary students, build understanding, and encourage the application of knowledge, skills, tools, and ideas to real world issues.</p>				<p>Students will create age appropriate lessons and activities that address the ND science standards, INTASC standards, AI Standards for Science Education</p>	
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Grading: Your grade in this course will entail a weighted scale incorporating your work in lecture collaboratively working with your peers, your work in the computer lab, and your scores on quizzes and the final exam.

Reflection Papers: 60 pts (6 @ 10 points each)
Smarter Balanced Reflection=10 points
Case Scenario/Deconstructed Standards (September 24, 2014)=10 points
Quizzes: 40 pts (4 @ 10 points each)
September 10, 2014
October 8th, 2014

Mid-Term: 50 pts

October 15th, 2014

Lesson Plans (3): 50 pts each (150 total)
Lesson 1 Due (with Science Standards): October 8, 2014
Lesson 2 Due (With Deconstructed Standards): October 22, 2014
Thematic Lesson Due: TBD

Final Plan: 50 pts

Wednesday, December 3, 2014

Final Exam: 50 pts

December 10th, 2014

A=295 pts B=285 pts C=250 pts D=200 pts