I. Course Description:

A study of methods, techniques, and materials of instruction appropriate to science teaching in the middle school.

II. Course Goals and Objectives

A. Goal Statement

In this course we will build on current research and practice to better prepare you to foster science learning in middle school students. Through participation in activities and discussions, you will develop an informed sense of the nature of science and science teaching in the middle grades. The course will actively engage you in scientific phenomena, much in the way we hope you will actively engage your students and in a way in which we will be conscious of the conflicting goals that teachers face in dealing with these various aspects of science learning.

B. Objectives

The student will:
1. design and teach inquiry-oriented activities that support diverse students’ learning effectively;
2. develop knowledge, understanding, and use of the role of fundamental concepts in the subject matter of science;
3. develop knowledge, understanding, and use of the unifying concepts of science and the inquiry processes that scientists use;
4. exhibit dispositions of an effective, caring professional educator, as outlined in the College of Education’s Conceptual Framework;
5. identify naïve theories and misconceptions that most young adolescent learners have about scientific and technological phenomena;
6. identify relevant connections between science content and diverse students’ lives and backgrounds;
7. become familiar with current resource materials like AAAS Benchmarks, state and district objectives, and numerous science curriculum programs; and
8. create a safe environment in which diverse learners have opportunities to engage in inquiry-based learning.
III. Texts and Materials


On-line resources include:


V. Administrative Requirements
Students are obligated to complete all assigned work promptly, to attend class regularly, and to participate in discussions. In addition, students must exhibit the dispositions that are listed in the College of Education Conceptual Framework.

Absence from more than 10 percent of the scheduled class sessions, whether excused or unexcused, is excessive and the instructor may choose to exact a grade penalty for such absences. It is of particular importance that a student who anticipates absences in excess of 10 percent of the scheduled class sessions should obtain prior approval from the instructor before the last day to change schedule as published in the Master Schedule of Classes.

It must be emphasized that the "10 percent rule" stated above applies to both excused and unexcused absences. (Taken from the Undergraduate Bulletin).

IV. Academic Requirements

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Raw Score</th>
<th>Percentage of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Lesson Plans</td>
<td>23 points per lesson (2)</td>
<td>25</td>
</tr>
<tr>
<td>B. Internet Search Project</td>
<td>25 points</td>
<td>15</td>
</tr>
<tr>
<td>C. NOS Research Project</td>
<td>25 points¹</td>
<td>15</td>
</tr>
<tr>
<td>D. Dispositions/Class Activities</td>
<td>10 points per class²</td>
<td>25</td>
</tr>
<tr>
<td>E. Final Examination</td>
<td>TBA</td>
<td>20</td>
</tr>
</tbody>
</table>

Guidelines and evaluation criteria for each of the assignment are posted on Blackboard.

¹ Candidates who are taking the course for graduate credit must include references in APA format.
² Candidates who are taking the course for graduate credit will have to write a reflective summary for each class.
Graduate students will be required to meet additional requirements that are stipulated within assignments.

VI. Grading and Evaluation

Grades will be determined based on the evaluation of each assignment listed in Section IV using the following grading scale:

- **A**  92-100%
- **B+** 88-91
- **B**  84-87
- **C+** 80-83
- **C**  75-79
- **D**  70-74

Dr. Carnes reserves the right to add points to an individual's earned point total.

Notes: