Objectives:
1. Students will understand the nature of scientific inquiry and become scientifically literate.
2. Students will demonstrate fundamental facts and concepts in the major science disciplines that will help them teach science to children in K-8.
3. Students will make conceptual connections within the science disciplines, as well as to mathematics and technology.

Attendance Policy:
You are strongly encouraged to attend class regularly. Class participation is essential and lack of attendance may lower your grade. It is your responsibility to notify the professor before class of your absence, so that materials may be obtained.

All assignments must be due on time, when absent. You must come prepared to discuss all topics listed in this syllabus each class period.

Academic Honesty Policy:
The Moravian College policy on academic honesty will be followed. Please refer to the student handbook for this policy.

Texts Required:
Sciencesaurus, A Student Handbook, Great Source, 2005

References:
Science Content for Elementary and Middle School Teachers, Penelope Fritzer and Valerie Bristor, 2004
Teaching Children Science_A Discovery Approach, Joseph Abruscato, 2004
Essentials of Elementary Science, Daniel Dobey, Beichner, and Jabot, 2004

Grading:
Your performance will be assessed in the following areas:
94-100 points=A
90-93 points=A-
87-89 points=B+
84-86 points=B
80-83 points=B-
77-79 points=C+
74-76 points=C
70-73 points=C-
67-69 points=D+
64-66 points=D
60-63 points=D-
Requirements:

**Learning Center**- This should be an activity oriented learning center for any grade level on any science topic. All materials should be provided at the station. The center should be attractive, inviting, fun, safe, and scientifically accurate. Attention should be given to at least 3 learning tasks. This center may be the same topic as your classroom demonstration. Clear instructions must be given. One or two students should be able to interact at the center. You may do this with a partner.

**In-School Observation**- You must observe a science lesson in any grade K-8. Plan to observe an experienced teacher and to fill out a form, as you observe the lesson looking for scientific accuracy, enthusiasm, content knowledge, safety, creativity, hands on and management. Plan to discuss this observation in class with colleagues. Write a one page summary of the lesson observed double spaced mentioning the above observations in your paper.

**Interview a Child**- Interview an elementary child and discuss his scientific knowledge, reflections, feelings, etc. Critique his/her interview and submit it on paper. This should be one page in length double spaced.

**Classroom Demonstrations**- Your colleagues will be your elementary students as you teach science content on a particular topic. A hands-on demonstration must be included in your lesson. You may work with a partner. A lesson plan must be provided. The lesson should be about 20-30 minutes in length. You may incorporate your learning center with your demonstration with a partner. Also, the teacher created test must be related to your demonstration topic.

**Research Paper**
This is to be at least a five page typed research paper on an inventor or scientist or a career or careers in science. If you choose to do a scientist, it should be a biography. You must include a bibliography of at least 3 sites and a title page is required. Be prepared to discuss this paper with your colleagues.

**Web Sites**
You must review 3 science web sites or science software and fill out the form provided. Be prepared to share the sites and software with the class.

**Teacher Designed Test**
You must design a teacher made science test on the science topic you have chosen for your demonstration. You must include various forms of assessing such as multiple choice, labeling, matching, fill-ins, and essays.

**Exams #1 and #2**
There will be two exams. They will both be essay questions with emphasis on methods and content. The final will also contain some multiple choice, matching, and a diagram to label. Study Guides will be provided.
Moravian College

Science in the Elementary Classroom

Class Meets every Tuesday and Thursday at 6:30 in Room 302 in PPHAC from August 29 through December 7, 2006

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 29, 2006</td>
<td>Introduction</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td>Review Requirements</td>
<td>Sciencesaurus</td>
</tr>
<tr>
<td></td>
<td>Journal Entry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review Standards, Sign ups</td>
<td></td>
</tr>
<tr>
<td>August 31, 2006</td>
<td>Hands on Experiments</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 1-Teaching Science in Grades K-8</td>
</tr>
<tr>
<td>September 5, 2006</td>
<td>Current Events Articles</td>
<td>Science –8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 2-Goals and Objectives For K-8</td>
</tr>
<tr>
<td>September 7, 2006</td>
<td>Sciencing</td>
<td>Science-K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 3-Understanding the Nature of Science</td>
</tr>
<tr>
<td>September 12, 2006</td>
<td>Active Science Learning</td>
<td>Science-K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 4-Questioning</td>
</tr>
<tr>
<td>September 14, 2006</td>
<td>Inquiry Teaching</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 5-Strategies to Help Children Learn</td>
</tr>
<tr>
<td>September 19, 2006</td>
<td>Technology</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 6-Selecting and Using Media</td>
</tr>
<tr>
<td>September 21, 2006</td>
<td>Instruction of Science</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 7-Planning for Science</td>
</tr>
<tr>
<td>September 25 or 27, 2006</td>
<td>Student Achievement</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chapter 8-Assessments</td>
</tr>
<tr>
<td>September 28, 2006</td>
<td>Learning Activities</td>
<td>Science K-8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Part Two Chapter 9 Lesson Observations Due</td>
</tr>
</tbody>
</table>
October 3, 2006  Exam # 1  Exam on Chapters 1-8 in Science K-8

October 5, 2006  Making the literature Connection  Lab-Children’s Literature and Web sites due

October 10, 2006  No Class Fall Break

October 12, 2006  Almanac, Science Timeline, Science Terms-Sciencesaurus

October 17, 2006  Doing Science-Sciencesaurus

October 19, 2006  Classroom Demonstrations and Learning Centers presented

October 24, 2006  Doing Science-Sciencesaurus

October 26, 2006  Classroom Demos and Learning Centers Presented

October 31, 2006  Life Science-Sciencesaurus

November 2, 2006  Classroom Demos and Learning Centers Presented

November 7, 2006  Life Science-Sciencesaurus

November 9, 2006  Lab-cooperative group time

November 14, 2006  Earth Science-Sciencesaurus Interviews with a child due

November 16, 2006  Classroom Demos and Learning Centers Presented Teacher Made Tests Due with Demos

November 21, 2006  Earth Science-Sciencesaurus
November 28, 2006  Physical Science-Sciencesaurus

November 30, 2006  Demonstrations and Learning Centers Presented
                    Research Paper Due

December 5, 2006  Final Exam

December 7, 2006  Science, Technology, and Society-Sciencesaurus

*This syllabus is subject to change.
All assessments are tied into the student outcomes
Also: Please expect 4-5 hours of course work per week.
      If you have any type of disability, please notify the instructor immediately.