

**SCI 321: Methods of Teaching Secondary Science**

Term: Spring 2011

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| **Course:** | SCI 321 | **Professor:** | Ms. Carmella Powell |
| **Credits:** | Three Semester Hours | **Office Hours:** | 12:30-2:30 Tues. and Thurs.. |
| **Classroom:** | SCM 302 | **Office Phone:** | 803-321-5376 |
| **Class Meets:** | Tuesdays/Thursday from 8:00 to 9:15 am | **Email:** | Carmella.Powell@Newberrry.edu |
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| **Catalog Course Description: SCI 321. Methods of Teaching Secondary Science. (3)**  Practical training in the teaching of science on the secondary level. Emphasis will be on the current types and patterns of science programs that adhere to the National Science Education Standards for teachers and for grades 9-12. Topics will include discussion of teaching strategies, laboratory management, planning for instruction, demonstrations, and laboratory experiences involving inquiry. The use of technology in the classroom and laboratory will be emphasized. Various types of assessment as well as safety and health responsibility will be discussed. Three lecture hours per week.  *24 hours of field experience with a certified science teacher will be required.*  *Required for teacher certification in the natural sciences.*  *Does NOT satisfy Core Curriculum requirements for Natural Sciences and Mathematics.*  *Offered at departmental discretion* |
| **Research Base:** The research method is centered on the idea of making science classrooms highly engaging learning environments.  Writings and research that help to for the knowledge for teaching this class:   * Marzano, Robert: *Classroom Instruction That Works* * Marzano, Robert; *The Art and Science of Teaching* * Tate, Marcia; *Worksheets Don’t Grow Dendrites* |
| **Required Textbook:**  No required textbook |
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| **Supplementary Materials:**   * Tate, Marcia L. Worksheets Don’t grow Dendrites 2nd ed.; Corwin * Strong, Richard; Silver, Harvey F.; Perini, Matthew J; Teaching What Matters; Association for Supervision and Curriculum Development * Kellough, Richard D.; Kellough, Noreen G.; Secondary School Teaching A Guide to Methods and Resources 3rd ed.; Prentice Hall * Hyerle, David; Yeager, Chris Thinking Maps A Language for Learning; Thinking Maps Incorporated * Tate, Marcia L.: Phillips, Warren G.; Science Worksheets Don’t Grow Dendrites; Corwin * Tovani, Cris I Read It, But I Don’t Get It ; Stenhouse Publishers * Tovani, Cris Do I Really Have to Teach Reading; Stenhouse Publishers   . |
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| **LiveText Account:** All candidates must have a live text account. Some handouts with specific guidelines will be posted in Live Text. |
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| CACP: This is not a requirement for this course. |

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| Student Learning Outcomes:  **The student will** |
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1. Analyze, interpret and implement teaching strategies that engage students in content areas. (PLO# 1,2,3)
2. Analyze, interpret and implement the standards as published in the South Curriculum and in the national professional organization standards.
3. Utilize appropriate an effective technology to enhance teaching and learning.
4. Create lesson plans that fulfill all components of Newberry College lesson plan format at the proficient stage or above. (PLO#2)
5. Evaluate textbooks currently used in public school instruction
6. Develop an integrated unit plan focusing on active involvement of the student. (PLO #2)
7. Increase teaching confidence by presenting lessons in front of peers and students in the field. (PLO #3)
8. Demonstrate effective use of modifications and accommodations for diverse learners. PLO#3)
9. Demonstrate knowledge of current research by reviewing reporting on current journal articles.
10. Formulate an understanding of EEDA and how it pertains to being successful middle school teacher.
11. Design effective formative and summative assessments. PLO #4)
12. Develop and teach interdisciplinary lessons making curriculum connections.
13. Implement science process skills and inquiry in planning and teaching.
14. Present specific safety guidelines for teaching biology, chemistry, earth science, and/or physical science courses.

Standards Alignment Chart

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| **Learning Outcomes**  The student will… | | **Assessment(s)** | **INTASC** | **NCATE** | **NSTA** | **ADEPT** | **Conceptual Framework** |
| 1 | Analyze, interpret and implement teaching strategies that engage students in content areas | Lesson plans that are proficient or above and scores on lessons taught | Multiple Instructional Strategies, Planning | Pedagogical Content  Knowledge | 2c,3a,3b,5a,5c,5f | Instruction | Best Practice |
| 2 | Analyze, interpret and implement the standards as published in the South Curriculum and in the national professional organization standards. | Scores of proficient or above on lesson plans. Scores on lessons taught | Planning | Pedagogical Content  Knowledge | 1g,6a, 6b | Planning, Instruction | Best Practice  Content |
| 3 | Utilize appropriate an effective technology to enhance teaching and learning. | Scores of proficient or above on lesson plans; a total of 85-100 points on power point presentation | Multiple Instructional Strategies | Pedagogical Content  Knowledge | 1c 3a,5d, | Planning, instruction | Best Practice |
| 4 | Create lesson plans that fulfill all components of Newberry College lesson plan format at the proficient stage or above. | Scores of proficient or above on lesson on Newberry College lesson plan format | Planning | Diversity, Clinical Experiences | 5a,5c,6b,10c | Planning, Instruction | Best Practice  Content |
| 5 | Evaluate textbooks currently used in public school instruction. | 40-50 points on textbook evaluation rubric | Reflective Practice | Pedagogical Content  Knowledge | 2c | Professionalism | Best Practice  Content |
| 6 | Develop an integrated unit plan focusing on active involvement of the student. | A score of 255-275 points on unit plan | Planning | Pedagogical Content Knowledge | 5a,5b,5c | Planning, Instruction | Best Practice Content |
| 7. | Increase teaching confidence by presenting lessons in front of peers and students in the field. | 60-75 points on group teaching; 85-100 points on field and teaching experience | Reflective Practice | Pedagogical Content Knowledge, Clinical Experience | 2b,2c | Planning, Instruction | Best Practice |
| 8. | Demonstrate effective use of modifications and accommodations for diverse learners. | Field experience and teaching points 85-100 | Diverse Learners | Diversity, Clinical Experience | 5b,5c | Planning, Instruction | Diversity, Ethics |
| 9. | Demonstrate knowledge of current research by reviewing reporting on current journal articles. | 70-80 points on write-ups for journal articles (4) | Reflective Practice | Pedagogical Content Knowledge | 7a | Professionalism | Best Practice  Content |
| 10. | Formulate an understanding of EEDA and how it pertains to being successful middle school teacher. | 40-50 points on EEDA assignment | School and Community Involvement | Pedagogical Content Knowledge | 7a,7b | Planning, Instruction | Best Practice |
| 11. | Design effective formative and summative assessments. | 85% and above on teacher made test | Planning | Pedagogical Content Knowledge, Clinical Experience | 5e,8a,8b,8c | Planning, Instruction | Best Practice  Content |
| 12. | Develop and teach interdisciplinary lessons making curriculum connections. | 40-50 points on plan and teaching | Planning | Pedagogical Content Knowledge, Clinical Experience | 1a,10c | Planning, Instruction | Planning Content Collaboration |
| 13. | Implement science process skills and inquiry in planning and teaching | Evidence in lesson plans and teaching of process skills and inquiry | Multiple Instructional Strategies, Planning | Pedagogical Content Knowledge, Clinical Experience | 3a,3b,4b | Planning, Instruction | Best Practice |
| 14 | Present specific safety guidelines for teaching biology, chemistry, earth science, and/or physical science courses. | Evidence in lesson plans and implementation of safety procedures | Multiple Instructional Strategies, Planning | Pedagogical Content Knowledge, Clinical Experience | 9a,9b,9c,9d | Planning, Instruction | Best Practice |
| Policies **Attendance:** Candidates are expected to be present, on time, and prepared for all classes. A missed class means a missed opportunity to gain knowledge, skills, and dispositions necessary for your chosen career. Excessive absences or tardies will naturally lead to lower grades on work and tests because of these missed opportunities for learning. Three tardies count as one absence. Candidates may only miss a total of five T/TH classes or six M/W/F classes. Absences exceeding the stated number will result in a failing grade for the course.  Missing three classes without documented extenuating circumstances will result in a one letter grade reduction and a disposition form will be filed expressing concern about the candidate’s professional commitment. Candidates are responsible for content covered in class during their absence. Candidates who know in advance that they will be absent from class (for pre-authorized field trips, sports competition, conferences, or similar events) should notify the professor in writing before the absence and turn work in early. Education faculty members reserve the right to ask for verification when determining whether to allow candidates to make up tests or exams.  Candidates who are absent must contact the professor as soon as possible in writing and discuss the situation | | | | | | | |

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| **POLICY ON ACADEMIC DISHONESTY**: Academic integrity at Newberry College assumes that all work, written or oral, submitted by a student is that student’s own work. I adhere to the College’s policy, which deals severely with cheating—including plagiarism. [Plagiarism is the theft of another person’s words or ideas. It is a dishonest, unethical attempt to claim someone’s work as your own—and will not be tolerated in this class.] Students who fail to comply will receive one of these penalties: (1) A paper may receive a grade of “0”; a Report of Academic Dishonesty will be filed as part of the student’s record in the Registrar’s Office and with the Associate Dean of Academic Affairs, (2) A student may receive a grade of “F” for the course; a Report of Academic Dishonesty will be filed with the Associate Dean of Academic Affairs and the Registrar, as part of that student’s permanent record, (3) A student whose offense is particularly heinous may be remanded to the Associate Dean of Academic Affairs, who may convene the Academic Integrity Committee, possibly resulting in a judicial sanction and/or expulsion. Students with additional questions should consult the office of the Associate Dean of Academic Affairs (321-5110 |

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| **Center for Student Success**  The Center for Student Success (CSS) is currently located in Wright Hall. The building offers quiet study spaces and a computer lab. During the academic semester, Wright Hall is open and available beginning at 7:15AM Monday through Friday and closes at 8:00PM Monday through Thursday and at 4:30PM on Friday. Other services offered to all Newberry College students for academic enhancement are free and include: academic orientation and new student advisor assignment, career services, content area peer tutoring, disability services, international programs, organizational skills, study skills, time management, writing assistance and other services.  To obtain specific services, please use the following guidelines:  **Disability Services** – Students enrolled in the Disability Services Program must identify themselves and present documentation of their disability signed by an approved professional in order to have an accommodation letter put in place. This can be accomplished by contacting Ms. Kay Chandler in the Center for Student Success by phone (803-321-5187), e-mail ([kay.chandler@newberry.edu](mailto:kay.chandler@newberry.edu)) or in person to schedule an initial meeting. ALL records are kept confidential for the protection of our students.  Note: Your instructors are not permitted to discuss your disabilities with you until you have registered with the Office of Disabilities Support Services.  **International Programs** – Students seeking assistance with Study Abroad opportunities or scholarship options for international educational avenues can drop-in or schedule an appointment with International Programs Specialist, Heather Hamblin, through email at [heather.hamblin@newberry.edu](mailto:heather.hamblin@newberry.edu), or by phone at (803)321-5278.  **International Students** – Problems, questions or concerns regarding your experience at Newbery College can be directed to Heather Hamblin as well.  **Peer Content Tutoring** – Please send an e-mail request including course title/number, professor teaching the course, and department to [tutor.request@newberry.edu](mailto:tutor.request@newberry.edu) (*For example,* ENG111: Freshman Composition, Dr. Jones, English Dept.)  **Writing Assistance** – One-on-one writing assistance is available for all Newberry College students. This includes drop-ins or scheduled appointments with tutors and writing assistants for help in brainstorming, revising and editing papers—even CACP papers. Students are welcome to stop by the Center for Student Success Monday through Thursday between the hours of 12:00PM until 8:00PM for assistance or to schedule an appointment**.** |

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| **Electronic Media:** Please turn off all electronic devices, other than your laptop, when entering the classroom. During class, please refrain from taking cell phone calls, sending and receiving text messages and emails, surfing the Internet and listening to IPods as these activities interfere with the learning environment.  *Personal computers may be used in class for note-taking and other assignments given by the professor. Students using computers for a purpose other than mentioned above will be asked to shut down the computer* |

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| **Course Requirements**   1. **Field Experience and Teaching 100 points**   You will be assigned to a classroom and required to complete twenty-four (24) hours during the semester. You will keep a record and time sheet for each observation along with reflections about each day. (Sheet will be provided). **Turn in the time sheet and the reflection about the day at the beginning of the class on the Tuesday following the field experience. (Total of 12 forms required)** You will also be required to teach three lessons in the field experience using the same procedure as in peer tutoring. You should collaborate with your mentor teacher to determine what you will teach and when. As you develop your plan, you should confer with me **prior** to teaching the lesson**.**  **After teaching each lesson, you are to complete personal reflections and observations about the effectiveness of the lesson. Indicate the date and time of the lesson and clearly label on a separate page your reflections. You will turn this in at the end of the semester along with the plans from the lessons taught. Your mentor teacher will observe and comment on each of the three lessons you teach using the ADEPT Observation Record. You will also write a one-page summary of the entire field experience. All of this will be turned in no later than April 14th . (**NOTE: All field experience hours must be completed in order to receive a passing grade regardless of other grades  A specific handout on the Field Experience and Teaching assignment will be provided..   1. **Group Teaching 75 points**   A group that will be asked to present a “mini-lesson” to our class that contains best practices in teaching science. Some class time will be provided for planning. Groups will present these lessons on **March 24th. See specific requirements and scoring guide in the syllabus below.**   1. **Textbook Evaluation 50 points**   You will evaluate a science textbook for its competency as well as readability and usefulness in middle school. See below for more information on this assignment as well as the scoring guide for how it will be evaluated. **Your textbook evaluation is due at the beginning of the class Feb 17th.**   1. **Instructional Strategies PowerPoint 100 Points**     You will create a PowerPoint presentation as though you were presenting a staff development to your department  on how Marsha Tate’s instructional strategies can be utilized, and how they relate to teaching science.  These strategies include:   * Brainstorming and Discussion * Drawing and Artwork * Games * Graphic Organizers, Semantic Maps, and Word Webs * Manipulatives, Experiments, Labs, and Models * Mnemonic Devices * Field Trips * Music, Rhythm, Rhyme, and Rap * Project-Based and Problem-Based Instruction * Storytelling * Reciprocal Teaching and Cooperative Learning * Technology * Visuals * Movement   In your presentation, you should begin with a discussion of teaching science. Next, you should clearly articulate how at least seven strategies could be used in the teaching of your discipline. Lastly, you should explain why the strategies would aid in teaching science students. Utilize the “notes” feature of PowerPoint to clearly explain each slide and what you would say to your department colleague during the presentation. The PowerPoint should be at least 20 slides, but not more than 40 slides. This PowerPoint will be submitted to your instructor on March 3rd. See Scoring guide below   1. **EEDA Assignment 50 Points**   You are to interview the career specialist or guidance counselor about the EEDA process. You can interview this person individually or as a group. Write a short narrative about the process and your thoughts on its usefulness or relevance, especially in light of how it seems to for that particular school in relation to the objectives the state has set forth. Discuss the career guidance process beginning with 9th grade. Also describe the articulation between the middle school and high school. **Due March 17th.**   1. **Use Thinking Maps to Teach Science Concepts 50 points**   Demonstrate in class how to use at least three different kinds of thinking maps to teach a science concept. Specific details will be given in class by your instructor **Due April 5th.**   1. **Teacher Made Test 100 points**   You are to develop a twenty-five (25) item test. Details and rubric will be given to you. **Due March 15th.**   1. **Resource Unit Plan 275 Points**   As a culminating project (**Final Exam**), you will create a resource unit plan. This plan will be thematic in nature and will cover **two weeks** of instruction. See below for more information on this assignment, as well as the scoring guide for how it will be evaluated. Your Unit Plan is due no later than the **beginning of class on April 21st.**  **EVALUATION PROCEDURES:** The final course grade will be determined by the number of points that the student earns. There are 800 points possible. Point correlations with letter grades:  752-800 =A  736-751 =B+  672-735 =B  656-671 =C+  592-655 =C  576-591 =D+  513-575 =D  0-512 =F    **Specific Assignment Information:**  Textbook Evaluation: Description and Requirement  You will need to evaluate textbooks in order to make good decisions about using them effectively.  Description:   1. Determine an age group that interests you (i.e. 10th grade) 2. Determine the subject area that you are most qualified to teach. 3. Select several texts from Wessels Curriculum Library to examine informally just to get an idea of how various textbooks are packaged 4. Select one text and exam it carefully 5. Complete the “Textbook Evaluation Form” (Given by the instructor) 6. Check for the following: 7. Layout (Table of contents, index, appendices, etc) 8. Reader friendliness (pictures, graphs, cartoons, ,captions, highlighted examples, chapter summaries, chapter questions and/or activities, print size, color, etc.). 9. Organization and scope of the material 10. Teacher Aids (suggested activities, topics for discussions or writing, overheads, websites, quizzes, tests, computer software, diagrams, charts, tables, etc. 11. Other important items in the text. 12. Respond in writing about the strengths and weaknesses of the text…. 13. State one way you would use the textbook effectively. 14. Tell how you might supplement this textbook   Requirements:   1. Type your evaluation according to the written word guidelines. 2. Use narrative to address numbers 7, 8, and 9. 3. Give the title and publisher of the textbook you reviewed, as well as the copyright date 4. Submit this evaluation to you instructor on the date specified in the syllabus.   **Textbook Evaluation Scoring Guide**   1. All categories are addressed in a substantive manner that follow the assignment’s description and requirements (20 points) 2. Observations reflect the student’s understanding of the purpose of the assignment (20 points) 3. Assignment exhibits the student’s command of basic communication skills (10 points)   Group Teaching  You will be assigned a group that will present a “mini lesson” to the class. This lesson must have the following:   1. A clear and engaging hook 2. A brief introduction of new information 3. An engaging activity 4. Demonstrated assessment (Informal) 5. Explanation of assessment (Formal)   Your group teaching is limited to 35 minutes. Remember to plan well and show your best innovations!  **Group Teaching Scoring Guide**   |  |  | | --- | --- | | Contains an engaging Hook | 15 | | Delivers new information in engaging way and conducts innovation activity | 25 | | Demonstrates both formal and informal assessments | 15 | | Demonstrates professional teaching | 20 |   **Strategies PowerPoint Scoring Guide**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Category** | **Beginning** | **Developing** | **Proficient** | **Excellent** | **Points** | | **PowerPoint** | **The candidate’s PowerPoint is unclear. Only one or two examples are given for use of the strategy and when it should be incorporated (10 pts.)** | **The candidate’s PowerPoint presents the strategies in a somewhat unclear fashion and provides few examples of how/when it could be used. (25 pts.)** | **The Candidate’s PowerPoint clearly presents the strategies and provides some examples of how and when each strategy could be incorporated. (35 pts.)** | **The candidate’s PowerPoint clearly presents the strategies and provides different examples of how and when each strategy should be incorporated. (50 pts.)** | **\_\_\_\_/50** | | **Contextualization** | **The candidate presents an incomplete explanation for the strategies in which the strategy and the model do not work and compliment one another. (0 pts.)** | **The candidate presents a somewhat incomplete explanation for the strategies inclusion. The model and the strategy do not work and compliment one another.(10 pts)** | **The candidate presents a well-planned explanation for the strategies inclusion; however, the model and the strategy do not necessarily work and compliment one another. 15 pts)** | **The candidate presents a thorough well-planned explanation in which the strategy could be incorporated. The lesson model and strategy fit together. (25 pts)** | **\_\_\_\_/25** | | **Adaptations** | **The candidate presents no explanations as to how the strategies could be used for working with science students (0) pts)** | **The candidate presents one explanation and example of how the strategies could be used for working with science students. (10 pts)** | **The candidate presents two explanations and examples of how the strategies could be used for working with science students. (15 pts.)** | **The candidate presents a variety of explanations and examples of how the strategies could be used for working with science students. (25 pts.)** | **\_\_\_\_/25** | |  |  |  |  | **TOTAL** | **\_\_\_\_/100** |   **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |

EEDA Assignment

**EEDA Scoring Guide**

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| **Interview Narrative** | **15** |
| **Process beginning with 9th grade, articulation between Middle and High School** | **20** |
| **Grammar and Mechanics** | **15** |

SCI 321 FINAL UNIT PLAN

Select an appropriate are of interest for a particular setting, special ability and grade level and prepare a thematic unit plan that covers a minimum of two weeks and gives a set of detailed lessons plans, including a copy of all the needed materials (instruction sheets, transparencies, posters, sample discussion tests and other assessment tools, etc).

Your unit plan must cover at least nine 50 minute class periods . You must complete 9 complete lesson plans to fit your unit. The beginning of your plan needs to contain the information from the Unit Plan Overview Form. Second, you need to answer the questions below in number order. Some of the information will be repeated, but the format below allows you to go into more depth. Follow the ADEPT lesson plan format

Your Unit Plan needs a resource unit component. A large variety of resource materials and activities should be included to provide an in-depth learning experience. The activities should focus on the active involvement of the students.

Description and Requirement of Supplements for the Resource Unit

1. The title page should include:
2. Student’s name
3. Name of unit
4. Grade level
5. Length of time required to teach
6. Date
7. The body of the unit should include:
8. Support Systems (Choose (3) from areas 1-6 below
9. Magazines, pamphlets, etc.(Give titles of articles)- Minimum of two (2)
10. Commercial Learning Materials (Give complete: name, publishing company, and a brief description) – Minimum of two (2)
11. Teacher-made Learning Materials (Give name and brief description or diagram and biographic information on the source of the idea) – Minimum of two (2)
12. Audio-visual Resources (films, movies, videos, records, CD’s, etc.). Include a variety of types. Give bibliographic information on each. Minimum of two (2)
13. Computer Programs (Give name, company, and a brief description of the program) –Minimum of two (2)
14. Bulletin Boards, Learning Centers (Giver a written description and/or include sketch. Remember to focus on materials that require active student involvement. – Minimum of one (1)
15. Resource Persons-Give te names and contact information for two people who could be a resource in science for your unit.
16. Letter-Create a letter to parents and/or students introducing the unit and how they can be a part of the learning experience.

**Final Unit Plan and Resources Unit Scoring Guide**

Unit Plan Overview Form 35\_\_\_\_\_\_\_\_\_\_\_\_\_

Supplements:

Number 1 5\_\_\_\_\_\_

Number 2 A 40\_\_\_\_\_

B 15\_\_\_\_\_

C 20\_\_\_\_\_

Lesson Plans (Lesson Plan Rubric will be provided 150\_\_\_\_\_

Mechanics 10\_\_\_\_\_\_

Total 275\_\_\_\_\_

**Attention should be paid to fulfilling all requirements for each section.**

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| **Instruction:**  This class will involve lecture, cooperative group activities, lesson planning, employing effective methods, reading across the curriculum, using thinking maps to teach concepts, laboratory safety as well as other activities that will engage the students as they become empowered to teach future generations. |

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| Grading Scale: |  |

A = 90-100 D+ = 66-69

B+ = 86-89 D = 60-65

B = 80-85 F = 0-59

C+ = 76-79

C = 70-75

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| **Professional Dress during the Field Experience:** Teacher candidates at Newberry College are expected to behave professionally and ethically in all relationships with administrators, teachers, parents and students. In addition, candidates are expected to dress in a professional manner any time they are representing the college at a public school. Any visit to a school during a Field Experience or Internship is in effect an interview – candidates need to make a good impression for themselves and Newberry College. During field experience all candidates need to look like professional educators, not college students. |

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| **Class Conduct:** Learning is a social activity. The success of our class depends just as much on the preparation and participation of every student as it does on the preparation and participation of the instructor. Thus, the burden of instruction is shared by all in class. So it is your job to come to class prepared and willing to participate. As the instructor, I am dedicated to making our class a place where all can freely and openly participate. Everyone comes to class with a variety of ideas, points of view, and opinions. You should feel free to express those on the topics at hand while in class, regardless of what those opinions are. You should also, then, be prepared to entertain challenges to those views, either from other students or the instructor. Self-examination, questioning of assumed and long-held views, and the articulation and defense of deeply held beliefs will be asked of you. This can be scary and even painful, but our goal is to allow it to take place in a safe environment, where individuals are free to express their views and dissent. As the instructor, I am not free of these obligations. I have my own views about the topics at hand; my stand on various positions will be apparent. Yet my views should not become your views, nor should they be the views parroted back on various examinations or assessments. Test your views, argue for them, try out others. Just do not be afraid to question the assumptions of yourself and others around you, or all this college business will be largely in vain.  In an effort to create a place where views can be freely expressed and discussed, I expect (and will enforce) civil conduct in our discussions. Belittling, sarcasm, insults, and raised voices will not be tolerated. |

**Course Essential Question: How do we become effective High School Science teachers who employ best practices to help students learn?**

**Course calendar:**

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| **Class** | **Date** | **Topic/Activity** | **Assignments for next class**  **(***assignments may be adjusted as necessary)* |
| 1 | Jan 13 | Introduction and Expectations | Use the Internet to find best practices in science teaching or *Robert Marzano’s Classroom Instruction that Works* |
| 2 | Jan 18 | Best Practices-How do we make it happen? | Newberry College Teacher Education Dispositions for Teaching  Report to 213 McClurg |
| 3 | Jan 20 | Components of a Good Lesson (McClurg 213 all methods classes combined) | Use the internet to find and read the following articles:   1. *Middle School classroom Management Behavior Action Plan* by Adam Waxler 2. *Ten Tips for Teaching Middle School* by Joseph Roach   Be prepared to discuss the articles in class |
| 4 | Jan 25 | EEDA presentation (McClurg 213- all methods classes) | Find another internet article on classroom management in the middle school. Be prepared to discuss the article in class.  Report to McClurg 213-EEDA presentation-all methods classes) |
| 5 | Jan 27 | EEDA presentation (McClurg 213- all methods classes) | Classroom Management  Have assigned articles read.  Read: *Learning in Interactive Environments: Prior Knowledge and New Experience* by Jeremy Roschelle  **Find state standards** <http://ed.sc.gov/agency/Standards> |
| 6 | Feb 1 | Classroom Management  Discussion of articles  Sample Rules for middle school classroom  **Develop rules for Middle School classroom** | Read: *Learning in Interactive Environments: Prior Knowledge and New Experience* by Jeremy Roschelle  **Rules for Middle School classroom** |
| 7 | Feb 3 | **Rules for Middle School classroom**  Assessing Prior Knowledge | Read: *Learning in Interactive Environments: Prior Knowledge and New Experience* by Jeremy Roschelle  **Construct a pre-test** |
| 8 | Feb 8 | Assessing Prior knowledge | **Refer to *Science Worksheets Don’t Grow Dendrites,* page 17 or the Internet for Bloom’s Taxonomy Revised** |
| 9 | Feb 10 | Lesson Planning  Essential questions | Practice writing essential questions |
| 10 | Feb 15 | **HW from previous class-recognizing verbs in objectives that are measureable.**  Essential questions  Writing objectives | **HW: recognizing verbs in objectives that are measureable. (Get assignment sheet from instructor)** |
| 11 | Feb 17 | Preparing instructional objectives  (ABCD) | **HW: Write four instructional objectives** |
| 12 | Feb 22 | **Four Instructional objectives due**  Strategies for Diverse learning | **Strategies That Engage The Brain- Manipulatives, Experiments, Labs, and Models**  **Mnemonic Devices (Marcia Tate’s *Science Worksheets Don’t Grow Dendrites-(Group activity according to subject matter)Present to class March 1*** |
| 13 | Feb 24 | Diversity and multiple intelligence   1. The learning ladder 2. Ex. of multilevel instruction | **Strategies That Engage The Brain- Manipulatives, Experiments, Labs, and Models**  **Mnemonic Devices (Marcia Tate’s *Science Worksheets Don’t Grow Dendrites-(Group activity according to subject matter) Present to class March 1*** |

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| 14 | March 1 | **Strategies That Engage The Brain- Manipulatives, Experiments, Labs, and Models**  **Mnemonic Devices (Marcia Tate’s *Science Worksheets Don’t Grow Dendrites-(Group activity according to subject matter) Present to class March 1*** | **PowerPoint is Due March 3rd**  Formative and summative assessment |
| 15 | March 3 | Formative and Summative Assessment |  |
| 16 | March8 | Spring Break |  |
| 17 | March 10 | Spring Break |  |
| 18 | March 15 | Formative and summative assessment | Work on teacher made test  **Teacher-made test is due March 15th** |
| 19 | March 17 | Class time working on teacher-made test and group teaching  Guidelines for interdisciplinary activity will be given | Interdisciplinary activities |
| 20 | March 22 | Interdisciplinary activities | **Group teaching March 24th** |
| 21 | March 24 | **Group Teaching** | Thinking maps |
| 22 | March 29 | Thinking maps  \*\*\*\*\* | Thinking maps |
| 23 | March 31 | Thinking maps  Labs and Lab safety | Labs and lab safety |
| 24 | April 5 | Labs and lab safety | Reading across the curriculum-Cris Tavani strategies |
| 25 | April 7 | Cris Tavani strategies | Reading across the curriculum-Cris Tavani strategies |
| 26 | April 12 | Cris Tavani strategies | **Field Experience assignment –Due April 14th** |
| 27 | April 14 | **Field experience assignment due**  Cris Tavani strategies | Creating cognitive questions |
| 28 | April 19 | Creating Cognitive questions | Activities from Worksheets Don’t Grow Dendrites  **Unit is due April 21** |
| 29 | April 21 | **Turn in unit**  Activities from Worksheets Don’t Grow Dendrites | Activities from Worksheets Don’t Grow Dendrites |
| 30 | April 26 | Activities from Worksheets Don’t Grow Dendrites | **Reading day** |
| 31 | April 27 | Reading Day |  |