

Weaving the Arts into Elementary Science Teaching *Summer 2016*

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Class Meetings: Aug. 1-5, 2016, 8 am – 5 pm.

Course Description:

Students will experience a hands-on, inquiry-based course format with direct application to teaching science. Focus will be placed on a deep connection to the natural world as well as a reverence and respect for nature, one another, and the planet. Students will be introduced to the Waldorf Science Curriculum. Methodology from Waldorf education will be applied to the Next Generation Science Standards (NGSS) recommended science curriculum. Students will experience guided crayon drawing, colored pencil drawing, water color painting, and handwork, and will see how these artistic mediums can integrate into the science curriculum.

Waldorf education aspires to:

- Awaken imagination and wonder
- Enliven and expand the breadth of student learning, bringing joy into the classroom
- Address the developmental needs of all children, through integrated, art-filled learning
- Use creativity in the classroom while nurturing emotional intelligences, kindness and responsibility through character building activities
- Benefit students of a variety of backgrounds with an experiential and integrated approach

Teachers will learn to:

- Protect childhood by creating a healthy and nurturing environment and using developmentally appropriate teaching methods
- Energize a love of learning
- Become adept at teaching through the arts, including drawing, painting, poetry, drama, storytelling, singing, and movement
- Develop and cultivate their own inner life



READINGS

Suggested Texts:

Kovac, C. Botany.

Wilkinson, R. (1983). *Man and animal: a study for children aged 10*. Sussex, England: Rudolf Steiner College Press.

Selected articles

Course Objectives

After completing this course, students will:

1. Gain a greater understanding of the Waldorf science curriculum and how it relates to the curriculum recommended by NGSS and WI State Science Standards.

The extent to which the student has met this course objective will be assessed through the following course assignment: Readings, Unit/Block Plan, Group Discussions

2. Become familiar with the Waldorf pedagogy used in teaching science.

The extent to which the student has met this course objective will be assessed through the following course assignment: Class Participation, Science Journal/Main Lesson Book, Unit/Block Plan

3. Become more knowledgeable of the range of science teaching techniques and how the Waldorf teaching style can be applied in the public school setting.

The extent to which the student has met this course objective will be assessed through the following course assignment: Class Participation, Unit/Block Plan, Group Discussions

4. Come to understand the nature of science and how the teaching of science can be related to other content areas and can be applied in real world situations and how science content came out of real world situations.

The extent to which the student has met this course objective will be assessed through the following course assignment: Discussion Leader, Readings, Class Participation, Unit/Block Plan, Science Journal/Main Lesson Book

5. Investigate how science can be developed to meet individual student needs.

The extent to which the student has met this course objective will be assessed through the following course assignment: Group Discussions, Readings

6. Gain a greater understanding and appreciation of the interconnection that we all share with the planet and will learn methodologies to help instill that in our children.

The extent to which the student has met this course objective will be assessed through the following course assignment: Class Participation, Readings

7. Learn specific artistic techniques used in the Waldorf school and how these techniques can be integrated into science content.

The extent to which the student has met this course objective will be assessed through the following course assignment: Readings, Class Participation, Science Journal/Main Lesson Book

- **Participation:** Education is a social endeavor and we learn from one another. If students are not present in class, we cannot benefit from their ideas, experiences, or observations. Due to the interactive nature of this course, attendance and participation are critical. Students are asked to notify the instructor in advance of missed classes whenever possible, and are responsible for obtaining any missed notes or handouts from a classmate. Missing multiple classes will result in a lowered class grade. Students will be expected to participate in collaborative group interactions, and will be graded on that participation. In addition, students are asked to be aware of their communication style, and to use appropriate communication skills in all class activities.



Writing Standards:

Writing requirements within the graduate program: **This is a graduate course and students are expected to turn in papers and assignments of graduate quality.** All work should represent your reflections upon and integration of information covered in class in an organized way. Additionally, written assignments are to be clear in sentence construction and are to be proof read before they are handed in. Please discuss individual concerns with your professor. Writers in the fields of psychology, other behavioral and social sciences and special education express their ideas in a form and style developed by the American Psychological Association, commonly referred to as "APA". This writing form and style is familiar to a wide audience and allows the reader to concentrate on the content of the writing. **It is expected that students will follow the requirements of APA style rules in all formal written course assignments.** Such requirements are detailed in the *Publication Manual of the American Psychological Association*, 6th Edition, 2009. Students will find the manual to be an invaluable resource as a professional educator and it is recommended they purchase the text.

COURSE ASSIGNMENTS

All assignments will be thoroughly discussed in class, and supplemental written guidelines will be provided.

Assigned Readings and Discussion Leader

You will be responsible for completing assigned readings each evening. You will also have the opportunity to lead a discussion. You can lead the discussion in a traditional manner (i.e. ask questions, etc., or you can prepare something in a non-traditional format). Discussions of readings will last 45 minutes. It is important to keep current with your readings, as discussions will be held the following class day. 15 points

Class Participation and Attendance

Attendance and participation in this course is imperative. Class meetings are highly interactive and therefore you cannot regain the spirit of a missed class by merely "getting the notes" from a classmate. Consequently attendance will be taken (and tardiness noted) to determine deductions from your grade compositions. 20 points

Science Journal/Main Lesson Book

Much of what we do in class will be illustrated and written in a sketchbook/journal/main lesson book. This book will be done in an aesthetically pleasing manner. The book will contain a table of contents, illustrations and descriptions of various activities and experiments. 30 points

Unit/Block Plan

You will be required to design a 2-4 week science unit/block on a content area and grade level of your choice. If you teach in a school where the science kits are mandatory, choose one of the kits from your grade level and enhance it using the following ideas. This block/unit will include a detailed, well-thought out circle, one story in its entirety, a unit assessment, and daily plans. In addition, try to include one artistic activity for each lesson or for every other lesson. The daily plans should include objectives, procedure, materials, and any assessment. The unit/block can be written up in a main lesson book or typed in a more traditional manner. 35 points

Discussion leader	15
Class Participation	20
Science Journal/Main lesson book	30
Unit/Block Plans	35

TOTAL – 100 points

A - Outstanding.

- A- = 92-94 points
- B+ = 89-91 points
- B = 84-88 points
- B- = 82-83 points
- C+ = 80-81 points
- C = 75-79 points
- C- = 70-74 points
- D+ = 68-69 points
- D = 65-67 points
- D- = 60-64 points
- F = below 60 points

A's are reserved for those students whose performance is *truly* outstanding. Performance reflects an outstanding level of competency attainment -- including critical analyses, information syntheses, and application of theory and research to practice.

B - Very Good. Performance surpasses a basic level of competency attainment, understanding, and skill, and indicates an ability to integrate and apply information.

C - Satisfactory. Performance reflects basic level of competency attainment, understanding, and skill.

TENTATIVE COURSE OUTLINE

Aug. 1 – Introductions, review syllabus, Sign up for discussion leader, Science Circle, Science for Kindergarten and First Grade, Nature story. Nature Walk. Artistic Activity – Crayon drawings, make cover page for main lesson book. Theory to Practice – discussion. Painting, Sheep to Shawl. Journaling.

Assignment – Read for today “Children’s Questions” by A.C. Harwood. Read for tomorrow, “Beyond Ecophobia” by David Sobel. Read Wilkinson’s “Man and Animal” booklet

Aug. 2 – 2nd and 4th grade: Animal Study and Human and Animal. Science Circle. Review. Creating a Living Image – Story.Writing, Colored pencil drawings, Theory to Practice – discussion, Painting, Sheep to Shawl. Journaling

Assignment – Read Gardening handout and selection from Kovac’s Botany book.

Aug. 3 – 3rd and 5th Grade Gardening, Farming, and Botany, Science Circle. Review. Story “George Washington Carver”, activities for gardening and farming (plant seeds, create chart). Theory to Practice – discussion, Water Color Painting. Sheep to Shawl, Journaling. Assignment – Read “Drawing in Nature”

Aug. 4 –6th grade Science. Physics - Light. Science Circle, 6th Grade Science Curriculum, Review, Experiences with Light, Illustrate in Main Lesson Books. Theory to Practice – Discussion, Painting, Sheep to Shawl, Journaling.

Assignment – Read “Astronomy – The Oft-Forgotten School Subject” by Sven Bohn.

Aug. 5 – Astronomy. Science Circle. Review. Galileo biography, Phases of the Moon activities. Main Lesson Book entry. Theory to Practice – Discussion. Painting, Sheep to Shawl, Journaling.

Assignment – Turn Main Lesson Book.

Tall Tall Tree

Poem about seasons

Poem about Months

Inch by Inch

Wood Cutter verse

Human and Animal Poem

Where is the Moon?

Though my soul my set

Oh Weather the weather

Half Moon Shows a Face...

Rock poem