

## ED3510 *Communicating Science* ~ Spring 2017

### COURSE SYLLABUS

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**Prerequisites:** Open to all majors & class levels

**Class Location:** 104 Great Lakes Research Center (GLRC) and at schools in Houghton, Baraga, and Gogebic Counties

#### Course Description

Communicating Science is a practical class designed to help students become proficient in communicating science to public audiences by means of oral and written venues. Students will give out-of-class presentations to elementary/middle school students and parents at Family Science & Engineering events, and in-class presentations—elevator speech on your major/career path, flash presentation, and presentation in the style of TEDx. Written assignments will include an essay about why communicating science to the public is important, review of science guest speakers, lesson plans, and reflections on your presentations.

Classroom lectures will highlight the rationale for interacting with schools and communities as a professional, development of age-appropriate lessons, presentation skills, effective teaching techniques, learning styles, classroom management, and demonstrate hands-on learning techniques.

**Educational Resources** – Students are encouraged to access activity guides in 104 Great Lakes Research Center (GLRC). Presentation supplies will be provided (all student purchases will be reimbursed). Ask first before making purchases. Request tax exempt card for all non-food purchases.

#### Course Credit

ED 3510 is a 3-credit course: 2 credit lecture (30 contact hours) + 1 credit lab (45 contact hours, includes travel time). ED 3511 is a 1-credit lab (45 contact hours, includes travel time).

#### Meeting Dates/Times:

ED 3510 will meet on Tuesdays from 7-9 pm, except when events are planned for that night, such as Family Science & Engineering Nights at schools and other events/venues. Students attend one family night as a presentation assistant (Feb. 7), and present at 6 Family Science & Engineering Nights (FSENs) or other events during the semester. FSENs are typically held from 6:00-7:30 PM at schools in Houghton, Baraga, Gogebic (CST) and Ontonagon Counties. \*\*Transportation to the school (in an MTU van), and dinner are provided for presenters at each event. **For most Family Nights, students should expect to be off-campus from approximately 4:30-9 pm. A few science nights may require up to 2 hours travel time each way.** Family Night dates, times, and locations will be posted in the course schedule.

#### Overall Class Objectives. Students will:

- Develop an understanding of why it's important to communicate to the public about science.
- Develop an appreciation for the public's view of science.
- Be introduced to different public communication venues.

**Oral Communication Class Objectives. Students will:**

- Understand and practice how to be interviewed by journalists.
- Present lessons to school-aged children and parents effectively using visuals and hands on activities to teach science concepts.
- Understand how to communicate effectively about science to the public.

**Written Communication Class Objectives. Students will:**

- Learn to write audience sensitive material.
- Learn to write with audience appropriate detail and depth.
- Be able to reflect on their teaching and assess what works and doesn't work.

**ED 3510 Course Requirements & Activity Grade Points (400 points)**

**Class Attendance** (50 points)

**Assignment #1:** Read *the following four* NSTA position statements on Elementary School Science, Parental Involvement In Science Learning, Learning Science in Informal Environments, and one of your choosing posted here: <http://www.nsta.org/about/positions/>. Write a 1-2 page reflection (single space) describing whether your K-8 science education incorporated the recommendations made in these position statements. How did your experiences in elementary school, contribute to your attitude, interest, and understanding of science today? (20 points)

**Assignment #2:** 2-page SS on “Why communicate science to the public?” (20 points)

- Provides definition of ‘science communication’ (5 points)
- Provides references from 5 or more sources (5 points)
- Describes your own views (5 points)
- Answers the question (5 points)

**Assignment #3:** 5-min. Flash Presentation (= teach us something in class). (10 points)

**Assignment #4:** Select an existing 40-minute family science or engineering lesson plan (see notebooks of past lessons) to present at family science & engineering nights at 2-3 local elementary schools. Include your elevator speech on your major/career options. (20 points)

**Assignment #5:** Prepare one NEW 40-minute lesson plan to present at 2-3 family science & engineering nights at local elementary schools. (40 points)

**Assignment #6:** Present at 6 Family Science & Engineering Nights or events (20 pts/presentation x 6 = 120pts)

**Assignment #7:** Prepare a one-page self-assessment/reflection of your presentation following *each* Family Night or event. (10 pts/presentation x 6 = 60 pts) **All assignments should be labeled with:** Your Name, Year/Major, School, event name & date, Activity/Lesson Title & target grade, Assignment title: Self-Assessment

**Assignment #8:** Assist with an informal science education event and complete a presenter evaluation. Arrange on your own, instructor will offer options—after school science class, outdoor field trips, etc. (10 points)

**Assignment #9:** Prepare and present TEDx style in-class presentation **and videotape for HASS review committee.** (30 points)

**Assignment #10:** Write a one-page reflection that discusses "how this presentation/teaching experience will contribute to your academic and professional career." (20 points)

**Grading Scale:** 94%-100% A    88-93% AB    83-87% = B    77-82% BC    71-76% C    <70% CD