



**IS352 Inquiry Science  
COURSE SYLLABUS: SPRING 2023**

**Instructor: Melinda Ludwig**

**Office Location: No office, but I will be available in Room 205 from 4:00-5:00 p.m. Thursdays**

**Office Hours: N/A**

**Class Time: 5:00 to 7:30 p.m. Thursdays**

**Office Phone: 903-875-7618 (Navarro College Partnership Office)**

**Office Fax: N/A**

**University Email Address: [Melinda.Ludwig@tamuc.edu](mailto:Melinda.Ludwig@tamuc.edu)**

<b>COURSE INFORMATION</b>
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**Materials – Textbooks, Readings, Supplementary Readings:**

**Texts: REVIEWING SCIENCE – 2<sup>nd</sup> Edition (Cohen, Deutsch, Sorrentino – 2009)**

**Aquatic WILD Manual (Blue Cover with pictures)**

**\*\* (For Navarro Partnership students, both books are available in the Navarro College bookstore. A used copy of Reviewing Science is o.k., but you need to get the current copy (2013) of Aquatic WILD.)**

**Additional materials: Notebook or paper for notes or lab reports, pencils, map colors, rigid metric ruler, scissors.**

**Course Description:**

**Science Inquiry is a course with minimal lecture. The bulk of the course consists of a variety of hands-on, inquiry science activities that target science instruction in grades Pre-K through 8.**

**Student Outcomes:**

- 1. Through participation in the inquiry science activities, students will gain experience and knowledge that will help them in preparation for the science section of the Generalist exam.**
- 2. Students will gain practical and interesting science knowledge and skills appropriate for science instruction in grades Pre-K through 8.**
- 3. Students will increase their own science literacy by participating in the inquiry science activities.**
- 4. Students will gain experience in a variety of laboratory techniques, which are used as part of teaching science as inquiry.**

## COURSE REQUIREMENTS

“This course consists of a selection of hands-on, inquiry science activities from a variety of disciplines/sources and is designed to enhance your skills in teaching science to elementary and middle school students. Each day you will participate in completing a selection of inquiry science activities.”

### Grading

Grading Scale: (90-100% = A; 80-89% = B; 70-79% = C; 60-69% = D; Below 60% = F)

### **ALL GRADES WILL HAVE EQUAL VALUE, BASED ON 100 POI**

1. Lab Reports/other classwork/homework/projects.
2. Three major tests.
3. FINAL EXAM (Comprehensive).

## TECHNOLOGY REQUIREMENTS

N/A

## ACCESS AND NAVIGATION

N/A

## COMMUNICATION AND SUPPORT

You may contact me about class-related matters at the e-mail address listed on Page 1. I will reply in a timely manner.

## COURSE AND UNIVERSITY PROCEDURES/POLICIES

### Course Specific Procedures:

#### Academic Honesty Policy:

Texas A&M University – Commerce does not tolerate **plagiarism** and other forms of **academic dishonesty**. Conduct that violates accepted standards of academic honesty is defined as academic dishonesty. “Academic dishonesty” includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one’s own), **cheating on exams or other course assignments**, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material.

Disciplinary action for these offenses may include any combination of the following:

1. Point deduction on an assignment.
2. Failure for an assignment.
3. A grade of zero for an assignment.
4. Failure for the course.
5. Referral to the Academic Integrity Committee or department head for further action.
6. Referral to the Dean of the College of Education and Human Services, Business and Technology, Arts and Sciences, or Graduate School as appropriate.

7. Referral to the University Discipline Committee.
8. Communication of student's behavior to the Teacher Certification Office and/or Dean of the College of Education as constituting a reason to bar the student from entering into or continuing in a teacher certification program. Procedures A 13.04, 13.12, 13.31, and 13.32.

## Examination Policy

Major Tests and the Final Exam will have the same format.

1. Items that refer to reading assignments in the textbooks and handouts.
2. Items that refer specifically to hands-on laboratory activities in the form of actual hands-on activities or analysis of results of activities, or both.
3. Items that address Critical Thinking Skills as they relate to understanding the analysis of the hands-on activities and how they relate to each other or to real world situations.
4. The Final Exam will consist of content and activities that incorporate 1-3 above.
5. Point value for each item will be in parentheses at the end of the section or item. Total value of the Test or EXAM is 100 points.

## Attendance Policy:

It is the prerogative of the instructor to drop students from courses in which they have accrued excessive absences (three or more). However, a student wishing to drop the course should do so. Failure to do so may result in a failing grade for the course.

You are expected to attend each class meeting and to arrive on time.

**THERE ARE NO MAKE-UPS FOR LAB ACTIVITIES THAT YOU MISS, AND A ZERO WILL BE RECORDED. YOU MUST DISCUSS A POSSIBLE MAKE-UP FOR THIS ABSENCE WITH THE INSTRUCTOR. YOU ARE STILL RESPONSIBLE FOR CONTENT OF TESTS OR LAB ACTIVITIES THAT YOU MISS. NOTE: IF YOU MISS A DEADLINE FOR AN OUT-OF-CLASS ASSIGNMENT (homework, citizen science project, etc.), YOU MAY TURN IN THAT ASSIGNMENT WHEN YOU RETURN TO CLASS.**

**IF YOU MISS A MAJOR TEST, YOU MUST CONSULT THE INSTRUCTOR REGARDING A POSSIBLE MAKE-UP. IF YOU FAIL TO ASK ABOUT A MAKE-UP TEST, OR DON'T SHOW UP IF ONE IS SCHEDULED, A ZERO WILL BE RECORDED AS YOUR TEST GRADE. BEST ADVICE: SHOW UP ON TIME FOR EVERY CLASS.**

**\*\*NOTE: THE INSTRUCTOR RESERVES THE RIGHT TO MODIFY ANY COURSE-SPECIFIC POLICY/PROCEDURE IF EXTRAORDINARY CIRCUMSTANCES EXIST, AND THE INSTRUCTOR WILL DETERMINE THE DEFINITION OF "extraordinary".**

## University Specific Procedures: *ADA Statement*

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library 162

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: Rebecca.Tuerk@tamuc.edu

## **Internship Requirements:**

All students applying for internship must attend a mandatory meeting the semester prior to the internship beginning. If you are interning in the fall, the meeting will be in January. If you are interning in the spring, the meeting will be in August.

All students must complete an application for internship. Students must meet the following requirements:

- a) Reading THEA score of 250 or Accuplacer Reading Score of 88 or COMPASS reading score of 90 or ACT score of 23 or SAT Verbal score of 550.
- b) Math THEA of 230, ACT score of 19 or SAT Math Score of 500, grade of C or better in College Algebra.
- c) Writing THEA of 220, grade of C or better in College English
- d) 2.75 GPA overall
- e) 2.5 GPA Interdisciplinary Studies Courses
- f) 2.5 GPA Specialization Courses
- g) 2.5 GPA Professional Development Courses
- h) Completion of all of the following courses: ELED 200, 300, RDG 350, 360,370, PSY 300, 310, SPED 346, IS351 OR 352, MATH 350
- i) Students may not lack more than 9 hours on entering internship. The following may be lacking: MusArtThe 305, one of the IS courses, Math 351, 1 specialization course. All other courses must be complete.
- j) Failure to meet the above requirements will result in not entering internship on time.
- k) Students will not be permitted to take the generalist exam, if they are missing content courses.

**Graduation – All students should meet with their advisor 1 semester prior to graduation to ensure that all requirements are met.**

**Completion of all requirements for degree (check degree evaluation for errors)  
Successful completion of JLE (see advisor).**

### ***Student Conduct:***

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment.

**You are expected to conduct yourself as a responsible adult. You are expected to show respect to the instructor and to your classmates. Behavior that deviates from this model and that disrupts the educational process can result in your removal from the class.**

### **Nondiscrimination Notice**

**A&M-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.**

### **Campus Concealed Carry**

**Texas Senate Bill – 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University – Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers**

or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M – Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to

(<http://www.tamuc.edu/aboutUs/policiesProcedures/StandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). Pursuant to

PC46.035, the open carrying of handguns is prohibited on all A&M – Commerce campuses. Report violations to the University Police Department at 903-886-5658 or 9-1-1.

Please be aware of the new campus concealed carry policy issued by Navarro College effective August 1, 2017. You are responsible for reading and knowing this information. Please see link below:

<http://navarrocollege.edu/boardpolicies/section-gj-1/>

<b>COURSE OUTLINE / CALENDAR</b>
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**DISCLAIMER:** The instructor reserves the right to make changes to the schedule of the class. Any alterations will be announced by the instructor in class, on ecollege, or via email. Students who do not attend class, log into ecollege, or check their email assume full responsibility for missing changes to the course.

Date(s)	Activities	Assignments for next class session	Student Outcomes Addressed
Th 1/19	Intro to course. Video clip on WILD curriculum. Activity: Are You Me? (3-5) Activity: Aqua Charades (K-2) Activity: Over in the Ocean in a Coral Reef (Read-Aloud and Sorting) (K-2)	Read pp. 61-67, 87-89, and 93-96 in <i>Reviewing Science</i> . Complete Review Questions, Part 1, on pp. 67-69, 90-91, and 97-98. Due next class	1,2,3,4
Th 1/26	Review Forms of Energy Explore some properties of Light and Sound. LABS: Mirror, Mirror and Silly Spoons (K-2) Rotation LAB: Sounds All Around (K-2)	Read pp. 123-136 in <i>Reviewing Science</i> . Complete Review Questions, Part 1, on pp. 137-140. Due next class. Read handout on Roller Coasters.	1,2,3,4
Th 2/2	Review Force, Motion, Gravity, Acceleration, and Newton's Laws of Motion. LAB: Roller Coaster! (K-4) LAB: Alka-Seltzer Rocket (3-6)	Read pp. 27-36 in <i>Reviewing Science</i> . Complete Review Questions, Part 1, on pp. 37-39. Due next class. <b>Study for TEST #1.</b>	1,2,3,4
Th 2/9	Review the Periodic Table and its uses; discuss Physical Properties of Matter. LAB: Physical Properties of Water (6-8) <b>Take TEST #1.</b>	Read pp. 51-57 in <i>Reviewing Science</i> . Complete Review Questions, Part 1, on pp. 57-59. Due next class. Read handout on Michael Faraday's Candle.	1,2,3,4

Th 2/16	Review Physical and Chemical Changes in Matter. LAB: Chemistry of a Candle (3-5) LAB: Acids, Bases, and pH (6-8)	Read pp. 175-177 in Aquatic WILD. Read Handout on Water Quality. Dress for outside.	1,2,3,4
Th 2/23	Discuss Riparian Zones, freshwater ecosystems, and water quality indicators. Visit campus pond to observe wildlife. Collect a sample of pond water. Return to class. Use Pond Water Tour Kit to test sample for levels of four water quality indicators. LAB: Testing for Ammonia, Nitrogen, Dissolved Oxygen, and pH in a water sample.	Read pp. 206-211 in Aquatic WILD. <b>Study for TEST #2.</b>	1,2,3,4
Th 3/2	Continue discussion of water quality indicators link to kinds of water pollution and effects on wildlife. LAB: What's in the Water? (6-8) <b>Take TEST #2</b>	Read pp. 189-195 and pp. 246-250 in Aquatic WILD. Read <u>One Plastic Bag</u> . Watch "The Majestic Plastic Bag" on YouTube.	1,2,3,4
Th 3/9	Plastics Pollution and its Effects LAB: Plastic Voyages (6-8) LAB: Plastics in the Water Column (6-8)	Read pp. 284-288 in Reviewing Science. Complete Review Questions, Part 1, on pp. 290-293. Due next class.	1,2,3,4
3/13- 17	SPRING BREAK	-----	-----
Th 3/23	Plate Tectonics, Sea Floor Spreading. LAB: Solving the Puzzle Under the Sea (3-5) Google Earth "Field Trip": Earth's Mountain Ranges (3-6)	Read Handouts for the Five Senses.	1,2,3,4
Th 3/30	Discuss the Five Senses: Sight, Hearing, Taste, Smell, Touch. LAB: Investigating the Five Senses. (6-8)	Read pp. 257-260 in Reviewing Science. Complete Review Questions, <b>Parts 1 and 2</b> , on pp. 261-263. Due next class.	1,2,3,4
Th 4/6	<b>Discuss GLOBE at Night Project (Leo; 4/12-4/21).</b> Review fossilization, fossil types, methods of analysis of specimens. Activity: Plaster cast of a fossil specimen using a mold (4-8). LAB: Observation and Analysis of real fossil specimens from areas of Texas. (4-8) Look at fossil displays, and model displays to identify claws, teeth, dinosaurs and non-dinosaurs. <b>Begin Moon Journal.</b>	Read Handouts on Owls and Owl Pellets. <b>Study for TEST #3.</b>	1,2,3,4

Th 4/13	Video clip on Owl Pellets. Discuss Predator/Prey roles; food chains and food webs. LAB: Dissection of a Barn Owl Pellet (4-8). <b>Take TEST #3.</b>	Read Handouts on Darwin and Natural Selection.	1,2,3,4
Th 4/20	<b>Turn in GLOBE reply sheet.</b> Video clip: How Does Evolution Work? LAB: Bird Beaks & Natural Selection (4-8) LAB: Unbeatable Beaks! (K-2)	Read the Water Quality Handout from 2/23 again. Pay special attention to the information on Photosynthesis.	1,2,3,4
Th 4/27	Review Photosynthesis and its role in energy transfer in living things and its role in the Carbon-Oxygen Cycle. LAB: Looking at Leaves (K-5) LAB: Show Me the Energy (3-5)	Read pp. 98-102 in Aquatic WILD. Bring Map Colors.	1,2,3,4
Th 5/4	Discuss specific body characteristics that increase chances for survival of fish species. Activity: Fashion a Fish (3-5)	<b>Prepare for Final Exam</b>	-----
Th 5/11	<b>FINAL EXAM (Comprehensive)</b>	-----	-----

**\*Picture-Perfect Science Lesson Activities**

**CHILDREN'S LITERATURE BOOKS REFERENCED:**

The Sun is my Favorite Star by F. Asch

Beaks by Sneed B. Collard, III

Hello, Red Fox by Eric Carle

Butternut Hollow Pond by Brian J. Heinz

Barn Owl by Sally Tagholm

Boy, Were We Wrong About Dinosaurs! By Kathleen Kudlinski

Near One Cattail by Anthony D. Fredericks

Earth's Landforms and Bodies of Water by Bobbie Kalman

Solving the Puzzle Under the Sea: Marie Tharp Maps the Ocean Floor by Robert Burleigh

How Mountains Are Made by Kathleen Weidner Zoehfeld

One Plastic Bag by Miranda Paul

Rain Fish by Lois Ehlert

**Important Astronomical Dates (Spring 2023)**

**February 3**                      **Cross Quarter Day**

**March 20**                        **Vernal Equinox**

**May 5**                             **Cross Quarter Day**

**A Cross Quarter Day is a day that is halfway between a Solstice and an Equinox or halfway between an Equinox and a Solstice.**

