



**IS352. 711 Science Inquiry I
Summer II 2014**

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COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings: *Textbook(s)*

Required: **Reviewing Science Paul Cohen et al. 3rd edition** *Textbook(s)*

Suggested: **PROJECT WILD –Manual**

Other materials recommended:

Basic Standard calculator

Pencil and colored pencils

Ruler

Scissors

Scotch tape or glue stick

Course Description: Science topics and themes are chosen to emphasize broad concepts highlighted in the Texas and National Science Standards. Topics include fundamental physical and chemical processes such as the chemistry of the environment, macromolecules of life, systems in nature, and the nature of scientific inquiry. The course will be taught using any inquiry based method, modeling, instructional techniques proven effective by current educational research. Prerequisite Junior level standing.

Student Learning Outcomes:

1. To help prepare pre-service elementary teachers to pass the elementary science section on the TExES exam.
Approximately 15% of the TExES exam is science-related. To address the 10 science competencies (42–51) Listed in the TExES preparation manual.
2. To provide a continuation of science content and lab skills introduced in IS 351 and to demonstrate that certain universal concepts are present in all the sciences and can be investigated. Topics are correlated with the TEKS and TAKS objectives and with elementary science teacher competencies.
3. Most important: To provide you and your future students with a good base of Science knowledge! To be a successful teacher you need to be well rounded and apply concepts across the curriculum to give your students the foundation they need to be successful.

4. To provide the pre-service teacher with an opportunity to fulfill the following Science Standards:
- I. The science teacher manages classroom, field and laboratory activities to ensure the safety of all students & the ethical care and treatment of organisms & specimens.
 - II. The science teacher understands the correct use of tools, materials, equipment, and technologies
 - III. The science teacher understands the process of scientific inquiry and its role in science instruction.
 - IV. The science teacher has theoretical and practical knowledge about teaching science and about how students learn science.
 - V. The science teacher knows the varied and appropriate assessments and assessment practices to monitor science learning.
 - VI. The science teacher understands the history and nature of science.
 - VII. The science teacher understand show science affects the daily lives of students and how science interacts with and influences personal and societal decisions.
 - VIII. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills {TEKS}) in physical science
 - IX. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills) in life science
 - X. The science teacher knows and understands the science content appropriate to teach the statewide curriculum (Texas Essential Knowledge and Skills {Teks}) in earth and space science.
 - XI. The science teacher knows unifying concepts and processes that are common to all sciences.

COURSE REQUIREMENTS

Attendance

- To be successful as a student I expect you to attend **ALL** classes. I understand situations arise that may result in you needed to miss class, keep in mind you are responsible for the material recovered in the class that day, regardless of the reason for missing class. If you miss a class the instructor will NOT re-teach the material to you, it is your responsibility to make up all missed work on your own. Please make arrangements with another student in the classroom to get notes, lab results or announcements missed in class. Copying another students work into your science notebook will NOT give you any credit toward this lab you must be present to receive the grade.

- Attendance is Mandatory. If you miss a class you will not be allowed to make up the work. I will however review a Student's absence if they have been in the hospital or have had a death in the family. Proper documentation must be supplied. Going on Vacation is NOT an excuse to miss class. **IF YOU MISS CLASS BEFORE AN EXAM, YOU ARE STILL RESPONSIBLE FOR THE MATERIAL COVERED ON THAT DAY.** You must discuss any options to complete the missing work ahead of time. Failure to take responsibility for missing class will result in a grade of 0 for an exam.

-NO MAKE-UP EXAMS WILL BE GIVEN.

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 the student’s behavior to the Teacher Certification Office and/or the 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.

General Classroom

- You will also need to participate in classroom activities and study outside of class.
- Please be on time for all class meetings and bring your textbook , paper and supplies with you to lecture and lab.
- If you have a problem with the course or the material see me and I will do my best to help.
- Rude and disruptive behavior will not be tolerated. You will be asked to leave the classroom and will not be allowed to return without meeting with the instructor and the director of the A & M program.
- No scheduled breaks. Unless there is a class discussion, lecture, or video, you may take a break as needed.
- No food or drinks allowed in the classroom. For safety reasons, you should never eat or drink in the lab
- Cell phone/ pagers- **TURN THEM OFF!**
- Study your materials for a few minutes every day. Science is not easy, short study periods are much more effective than late night “Cram” sessions
- **I am excited about this class. I hope you will relax and enjoy the class, we are going to learn lots of cool science information and have fun together!**

Grading (Subject to change *****)

Grades will be calculated by taking the total points possible. The resulting percentage will determine the grade. (90% and above an A, 80% a B etc.)

50% Three major exams 100 pts each

30% Lab Reports 23 reports to be turned in for 10-15 pts each/ possible

projects 20% Final Exam Comprehensive
100%

Grading FY I's

1. All work must be completed and done neatly for full credit.
2. All diagrams (chart, tables, graphs, etc.) must be drawn with a ruler.
3. Any calculations or measurements should be expressed to one place past the decimal.
4. Numerical answers without the correct unit have no meaning and will result in deduction of points for each answer.

TECHNOLOGY REQUIREMENTS

None

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement:

I will be in my office 1 hour before class to prepare for class and answer questions. I will also remain after class as needed by students

Contact: 903-875-7517

Primary E-mail: lisa.dillman@navarrocollege.edu

Please use this one, I have a Commerce address but do not check it regularly

COURSE AND UNIVERSITY PROCEDURES/POLICIES
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Course Specific Procedures:

1. We will be using the Project Wild curriculum as well as added labs and assignments from the textbook
2. Tests will be a combination of objective items [multiple choice, matching, etc.] and short answer/discussion items.) Included on the exam will be questions over the actual labs, notes and additional information for the labs, introduction and backgrounds from the project wild labs, lab results and other materials as assigned
3. Labs will be completed as a group. All members of the group are expected to participate. Individual student work will be recorded in their Science Notebooks and then submitted for grading. Books not completed at the time of grading will lose points for the unfinished labs.

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 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-148
StudentDisabilityServices@tamu-commerce.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) An overall GPA requirement
- e) Completion of all of the following courses: ELED 200, 300, RDG 350, 360,370, PSY 300, 310, SPED 346, IS351 OR 352, MATH 350
- f) 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.
- g) Failure to meet the above requirements will result in not entering internship on time.
- h) 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.

Course Outline/Calendar			
Date(s)	Activities	Assignments	Student Outcomes Addressed
7/8	Introduction: Observation and Inference Energy Transfer in Chemistry Lab: "Melting" Apples: Using a Temperature Graph to Show Phase Changes in Applesauce WILD-Aquatic Manual: AquaWords, pp. 29-30 Start Dragonfly pond	Read pp. 27-60 in <i>Reviewing Science</i> ; complete review section and additional study questions	1, 2, 4 1, 2, 3, 4
7/10	Lab: Water on the move Lab: Chromatography WILD-Aquatic Manual: Water Wings pg 110-113	Complete additional study questions Work on Dragonfly pond Research	1,2,3,4 1,2,3,4
7/15	Energy Transfer in Biology Discuss Nutritional Relationships, Food Chains, Food Webs, and Energy Transfer in Ecosystems. Lab: Food Webs Video Segment: Avian Vomitologist LAB: Owl Pellet Dissection WILD-Aquatic Manual: Turtle Hurdle and Plastic Jellyfish	Read pp. 272-279 in <i>Reviewing Science</i> ; complete review section and additional study questions STUDY for Exam 1	1,2,3,4
7/17	Exam #1 Lab: Energy Rotation	Read pp. 61-100 in <i>Reviewing Science</i> ; complete review section and additional study questions	1,2,3,4
7/22	Present Dragonfly pond Energy Transfer in Geology and Physics: Wave Motion Lab: Roller Coaster Lab: How we hear? WILD-Aquatic Manual: Net Gain, Net Effect page 85-90	Continue Energy reading assignment and additional study questions	1,2,3,4
7/24	Exam #2 Discuss Weather and Climate Lab: "Weather Watchers"	Read pp. 295-308 in <i>Reviewing Science</i> ; complete review section and additional study questions	1,2,3,4
7/29	Discuss Weathering and Erosion LAB: Stream Table Investigations Lab: Cave Science	Read pp. 272-279 in <i>Reviewing Science</i> ; complete review section and additional study questions.	1,2,3,4

7/31	Exam #3 Understanding Inheritance and Genetics Genetics Problems Lab: Dragon Genetics and Adaptations in the Potato Heads	Read pp. 180-191 in <i>Reviewing Science</i> ; complete review section and additional study questions	1,2,3,4
8/5	Review Genetics Introduce DNA Structure: Lab: Isolating DNA from strawberries	Read pp. 192-195 in <i>Reviewing Science</i> ; complete review section and additional study questions	1,2,3,4 1,2,3,4
8/7	FINAL EXAM (Comprehensive)		1,2,3,4