

COURSE TITLE BLACKBOARD SITE	SCE6103 Introductory Seminar (On-line) Spring 2012 http://my.ltu.edu and select CRN 1921
INSTRUCTOR	Sandra Yarema Doctoral Candidate, Adjunct Instructor Master of Science Education Program Contact Information e-mail: Yarema@ltu.edu Business phone: 248/204-3600: <i>Natural Science office, leave name and phone number with Secretary, in addition to detailed message, to make reply possible.</i> Office hours by appointment
SCHEDULE	September 11 – December 11, 2012 Refer to http://www.ltu.edu/registrars_office/calendar_final_exam.index.asp for the last date to withdraw and other important registration related information.
LEVEL/HOURS PREREQUISITE	Graduate Master of Science Education Program / 3 credit hours Admission to program
REQUIRED TEXT (See Blackboard for additional resources)	<i>National Science Education Standards.</i> National Research Council (1996) National Academy Press. FREE On-line access: http://www.nap.edu/books/0309053269/html/index.html <i>A Framework for K-12 Science Education: Practices: Crosscutting Concepts, and Core Ideas.</i> National Research Council. (2011). Committee on Conceptual Framework for the New K-12 Science Education Standards. FREE.pdf :Retrieved from: http://www.nap.edu/catalog.php?record_id=13165 ISBN 978-0-309-21742-2; 320 pages PAPERBACK (2011) Print copies available for online purchase through LTU Bookstore at: http://lawrence-tech1.bkstore.com/bkstore/TextbookSelection.do?st=489
ADDITIONAL RESOURCES	LTU Online student resources: http://www.ltu.edu/ltuonline/ Materials kit- details below
TECHNICAL SUPPORT	Technical support for using Blackboard is provided by the Helpdesk, 248.204.2330 or helpdesk@ltu.edu . Send the Help Desk a form detailing any issues by clicking here http://tinyurl.com/3yqrvne .

COURSE SCHEDULE FOR MET SEMESTER COURSES

This fully online course begins with a partial week online course orientation period to familiarize yourself with the online learning environment and to meet online or via the phone with your instructor. Each subsequent week starts on a Monday and ends on a Sunday.

Dates	Modules	Topics / Readings	Assignments Due
Prior to Semester Start and Sep 11 – Sep 16	Module 0	Online Learning Orientation Course Orientation and overview Begin Module 03 (Math Skills Review)> Theory; Math Skills Exam due October 7	Due Wed- Sep 12 Materials kit distribution Due September 16 <u>blog entry</u> <u>Meet Your Classmates</u> <u>Blackboard (Bb) Discussion Board (DB) Forum:</u> <u>Ask the Instructor</u> <u>Review syllabus;</u> <u>Academic Integrity policy</u>
Week of Sep 17 – Sep 23	Module 1 (note: more than one module may be scheduled in a week)	Science & Inquiry, Scientific Methods, Constructivist Theory <u>Narrated PowerPoints: - Tracks, Mystery Box, I Know I Can.</u> <u>Readings: NSE standards Introduction pp. 1-9; Frameworks Part I pp. 1-23; Journal article excerpts: Scientific Methods, The Nature of Science;</u> <u>weblinks: Discovery School; Bridgman - Nature of Science</u>	Due S-Sept 23 <u>Bb DB Forums:</u> -Response to text Introduction -Concept Map of Science -Description/draw scientist -table of observations & inferences for <i>Tracks</i> -Song for <i>I Know I Can</i> <u>Journal Entry for Activities:</u> - <i>Tracks, Mystery Box, I Know I Can</i>
Week of Sep 24 – Sep 30	Module 2	Science & Inquiry, Scientific Methods, Constructivist Theory <u>Narrated PowerPoints: Learning Cycles; I Love Coffee</u> <u>Readings: NSE standards Chapter 2-3 pp. 11-24; 27-53; Frameworks Dimension 1, pp. 41-82; NSF/NAP Report on Inquiry;</u> <u>Article excerpts: Scientific Methods, The Nature of Science; Exploratorium- Process skills & Approaches to Inquiry</u>	Due S- Sep 30 <u>Bb DB Forums:</u> -Response to Text: Scientific Literacy, Science Methods, & Inquiry <u>Journal Entry for- I Love Coffee.</u> Due S- Oct 7 <u>5 page Themed paper-</u> Nature of Science, Inquiry, science processes and methods and the role of luck.
Week of Oct 1 – Oct 7	Module 3	Math Skills Review Selected topics video, examples & practice Will discuss repeat of assessment as needed.	Due W-Oct 3 <u>Math Skills review activities</u> <u>Bb DB Forums:</u> Math skills review Due S-Oct 7 <u>Assessment Math Skills</u> <u>Journal Entry for Math Skills Review and Exam</u>

Dates	Modules	Topics / Readings	Assignments Due
Week of Oct 8 – Oct 14	Module 4	<p>Chemistry <u>Narrated Power Points:</u> <i>Properties of Matter, Mystery Powders, Learning Cycles and Assessment</i> <u>Readings:</u> <i>NSE Standards Ch. 5- Assessment Ch. 5- p. 75- 101; Frameworks Ch. 2-Crosscutting Concepts & Integration of Dimensions</i>, pp. 83 - 102 & 9, pp. 217 – 240-; Documents: Links to <i>Foundations-Assessment: Volume 1 Ch 5 & Volume 2: Ch 10 – 12; Rubrics.</i> <u>Activities:</u> <i>Temperature and Phase Change, Phase change atomic role play, Exploring physical and chemical properties of matter, Conservation of Matter, Mystery Powders.</i></p>	<p>Due S- Oct 14 <u>Bb DB Forums:</u> -Assessments Response to text <u>Assignments:</u> * Design a rubric to evaluate performance based objectives at a specific grade level for 1 activity chosen from this module. *Quiz in Blackboard Due W- Oct 17 *Presentation on Properties of matter for assigned substance Due S- Oct 21 <u>DB reply-</u> provide feedback; compare/contrast at least one other presentation of an element and its properties to your own. <u>Journal Entry</u> for all activities</p>
Week of Oct 15 – Oct 21	Module 5	<p>Library Resources and Graduate Research- Capstone Project Seminar <u>Narrated PowerPoints:</u> <i>Virtual library visit, Capstone Project</i> <u>Readings:</u> <i>NSF Standards:Ch.4 Professional Development.</i> pp. 55 – 73; <i>Frameworks: Ch 10, Implementation: Curriculum, Instruction, Teacher Development, and Assessment</i> pp. 241-277</p>	<p>Due S- Oct 21 <u>Bb DB Forum:</u> <i>Professional Development</i>-response to readings. <u>Journal Entry</u> to include review of Library website and research information; Capstone Project preview, review of AAC workshop, Provost/Research website <u>Other assignments:</u> *Course & Instructor Mid-term evaluation available Due S- Oct 28 *Annotated Bibliography</p>
Week of Oct 22 – Oct 28	Module 6	<p>Peer Teaching Lesson <u>Narrated PowerPoint:</u> <i>Topic selection and presentation guidelines</i> <u>Readings:</u> <i>NSF Standards: Ch 6: Content Standards</i> pp. 55 -73; <i>Frameworks: Ch 1-3:Dimension 3 Content</i>, pp. 103 -201</p>	<p>Due S- Oct 28 <u>Bb DB Forum:</u> <i>Content Standards</i>-response to text Due S – Dec 9 <u>Other assignment:</u> Peer Lesson PowerPoint and Formal Lesson Plan</p>

Dates	Modules	Topics / Readings	Assignments Due
Week of Oct 29 – Nov 4	Module 7	Botany- Water Transport in Plants <u>Narrated PowerPoint-<i>Up It Goes</i></u> ; <u>Virtual Lab Activities</u> ; <u>Readings</u> : Selected activities-water transport; <i>NSF Standards</i> : Ch. 7 <i>Program Standards</i> pp. 209 -225; <i>Frameworks</i> : Ch 12 <i>Guidelines for Standards Developers</i> , pp. 297 -310	Due S- Nov 4 <u>Bb DB Forums</u> response to text; <u>Journal Entry</u> lab data summaries
Week of Nov 5 – Nov 11	Module 8	Weather- International Time Standard, Weather maps and symbols, Gas Laws, Fronts, and Forecasting <u>Narrated PowerPoints</u> <i>What's the Weather, Weather Today</i> <u>Readings</u> : Selected Activities, weblinks; <i>NSF Standards</i> Ch. 8 <i>Science System Standards</i> pp. 227 – 243; <i>Frameworks</i> : Ch 13: <i>Looking Toward the Future</i> pp. 311- 340	Due S- Nov 11 <u>Bb DB Forum</u> : response to text- Science Ed system. <u>Journal Entry</u> activity data record summaries <u>Formal Lesson Plan</u> for 1 weather activity Due W- Nov 14 <u>Bb DB Reply</u> - Provide Feedback for classmate's Lesson Plan
Week of Nov 12 – Nov 18	Module 9	Astronomy- Is there intelligent life on earth? Is there life on other planets? <u>Narrated PowerPoint: <i>Is there Life on Other Planets?</i></u> <u>Readings</u> : Journal excerpts, weblinks, selected activities	Due S- Nov 18 <u>Bb DB Forums</u> Digital Message <u>Journal Entry</u> : activity data records and conclusions.
Week of Nov 19 – Nov 25	No New Module	Thanksgiving Holiday: November 21-25	Due S- Nov 25 <u>Bb DB Reply</u> - Provide Feedback for classmate's Digital message
Week of Nov 26 – Dec 2	Module 10	Life Science Taxonomic Classifications, Environmental Energy Web, Adaptations of living organisms, Informal Learning-Resources at the Zoo <u>Narrated PowerPoints: <i>Classifications; Adaptations. View Video From Animal Showboat to Animal Lifeboat</i></u> <u>Readings</u> : Selected Activities, weblinks	Due S- Dec 2 <u>Bb DB Forums</u> *Response to humane education video; * <i>Fashion a Fish creation.</i> <u>Journal Entry: <i>Life Science</i></u> activity data records and results Due W -Dec 5 <u>Bb DB Reply</u> - Provide Feedback for classmate's Fish creation

Dates	Modules	Topics / Readings	Assignments Due
Week of Dec 3 – Dec 9	Module 11	Energy, Work, and Power <u>Narrated Power Point Energy is Everywhere</u> <u>Readings</u> selected activities, weblinks <u>Final Exam</u> (Response to be submitted as word document) available to download: Tuesday, December 4	Due S- Dec 9 <u>Journal Entry Energy</u> activity data records and results <u>Peer-Lesson Presentation and Formal Lesson Plan</u>
Week of Dec 10 – Dec 11	Module 12	Wrap-Up: Putting it together in Perspective <u>Final Exam</u> (Response to be submitted as word document) available to download: Tuesday, December 4	Due <u>Tuesday Dec 11</u> <u>Final Exam</u> <u>DB reply-</u> provide feedback; compare/contrast at least one other Peer Lesson Presentation to your own. <u>Course & Instructor Evaluations</u> <u>*Return Materials Kit to Campus</u>

STUDENT EVALUATION

Letter grades are awarded based on the total number of points achieved, **and are weighted by category.**

Late Assignments are ONLY Accepted by PRIOR ARRANGEMENT.

The lowest score from the *assignments* category will be exempted from the calculation of your final grade

Assignments	Weighted % of final grade
Presentations and documentation	15 %
Tests and Final Exam	20 %
Mathematics skills Survey	15 %
Activities, Discussion Board Posts, Reflective Journal entries, blog posts, other assignments	40 %
Attendance and Participation (Meaningful DB Posts on 3 days for each Module)	10%

Class Points	Letter Grade
93 and above	A
90 – 92.99	A-
87 – 89.99	B+
83 – 86.99	B
80 – 82.99	B-
77 – 79.99	C+
73 – 76.99	C
72.9 and below	F

Note: Grades lower than a “C” fall below the LTU graduate standard

Regarding a Grade of Incomplete

A grade of incomplete (I) is given only under extraordinary, documented circumstances such as grave illness or family tragedy that prevent the student from completing a portion of the required work. The student must have satisfactorily completed the major portion of the course requirements. Students receiving an “I” may not attend the class during a succeeding semester. The student must make arrangements with the instructor to fulfill the remainder of the course requirements. Instructors must change the “I” to a grade other than a “W” no later than one calendar year following the end of the semester. Incompletes will revert to an “F” after one calendar year.

University Policy:

- A grade below B- in a graduate course will prohibit your enrollment in any other course that has it as a prerequisite. (CHM6253 has a prerequisite of CHM6153)
- Grades of C-, D+, D, and D- are not awarded in graduate courses; the lowest grade is C.
- At most, one passing grade below B- may be counted toward a graduate degree.
- No more than one required course may be repeated. If a course is repeated, the student's GPA will reflect both grades earned and IS NOT subject to recomputation.

EDUCATIONAL GOALS

This course will cover topics from the core science classes of the MSE program, and provide an introduction to methods of constructivist teaching; classroom management; student assessment methods; and research methods that will be used throughout the program.

Topics are aligned with standards developed by the National Science Teachers Association, the Michigan Curriculum Framework Standards and Benchmarks (MCFSB, formerly MEGOSE), and are designed to align with standards for Teacher Certification with an Integrated Science (DI) endorsement. Topics are also chosen to provide essential background for the program. Lessons are structured to address the MCFSB Grade Level Content Expectations (GLCE) in science (SCI) for Constructing (I) and Reflecting (II) objectives. For more information on MCFSB go to the website:

http://www.michigan.gov/documents/MichiganCurriculumFramework_8172_7.pdf

This course is not primarily designed to prepare you for the DI certification test. Preparation and advance knowledge of all test requirements are your sole responsibility. However, the instructor (and the MSE program director) will be a resource for you to use and will provide suggestions and assistance to you as you begin your preparations. Make arrangements outside of class to discuss your strategy for meeting all testing requirements. Penelope Morris, Graduate Program Assistant, (e-mail: pmorris@ltu.edu and telephone: 248.204.3533) will be available to assist you in scheduling the test and in procedures for certification upon successful completion of the test.

DI TEST CERTIFICATION WEBSITES

DI Elementary http://www.mttc.nesinc.com/PDFs/MI_field093_SG.pdf

DI Secondary http://www.mttc.nesinc.com/PDFs/MI_field094_SG.pdf

STUDENT LEARNING OBJECTIVES / OUTCOMES

Educational Theory and Practice

- Explore, identify, and analyze relationships between constructivist theory, scientific inquiry, and the nature of science through readings, activities, and other resources.
- Apply formative, authentic assessments to scientific inquiry activities.

- Design an inquiry-based lesson plan for weather science that incorporates the activities used within the modules.
- Design and present a peer teaching lesson that involves students in scientific inquiry, includes authentic, formative assessment, and addresses science process skills within the context of scientific content.
- Explore resources available for science education at the Detroit Zoo.
- Explore resources for graduate research, identify specific research strategies, and begin to plan possible topics for your capstone project.
- Review and practice the application of mathematical skills to scientific problem solving.

Science Content Knowledge and Process Skills

- Identify physical and chemical properties of matter, and distinguish between physical and chemical changes in matter.
- Design a presentation describing an element with irregular physical and/or chemical properties.
- Describe the process of water transport in plants.
- Explore elements of weather forecasting; apply the gas laws and principles of physics to weather phenomena.
- Evaluate evidence for the basis of life on earth and for extra-terrestrial life.
- Compare and contrast methods of biological taxonomic classification. Describe the environmental roles, niches, and adaptations present in a given habitat.
- Describe Potential and Kinetic Energy, identify different forms of energy, and describe the magnitude of forces, energy, and power involved in specific energy transformations.

PREREQUISITE SKILLS

A basic knowledge of Mathematical Skills applied to Scientific Problem solving (Algebra, unit analysis, coordinate graphing, vector and scalar quantities, simple geometry and basic trigonometric functions) will be required throughout the MSE program.

A passing score on a survey of these basic mathematical skills is required to pass the Introductory Seminar Course and continue in the MSE program. You will have up to 3 opportunities to successfully complete this survey. Study and Review materials and additional tutorial sessions will be made available.

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, all assignments, reading materials, streaming videos, narrated PowerPoint mini-lectures, test review materials, links to Web resources, and discussion forums. You will submit all assignments via Blackboard, and are expected to participate regularly in discussion topics. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.

Student/Instructor Conversations – Students keep in touch with the instructor via e-mail messages, virtual classroom, IM conversations, and telephone calls.

Required Reading – Assigned reading should be done according to the schedule outlined in the syllabus.

Assignments – Due dates listed on course schedule above, described in detail within each module.

CLASS POLICIES AND EXPECTATIONS

I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal. Here are some general expectations regarding this course:

Each student has a LTU email account. If you wish to use a different email address for this course, please **change your email address in Blackboard under “Blackboard Tools”, then “Personal Information”** and send an email to me so I can store your address in my email directory.

Readings, discussion forum participation, and written assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.

It is essential that all students actively contribute to the course objectives through their experiences and working knowledge.

All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software. If you need to submit an assignment via email, contact the instructor in advance.

Assignments must be completed to an adequate standard to obtain a passing grade.

Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you.

At midterm and at the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor, and I encourage you to participate in the evaluation process.

It is important for you as students to know what to expect from me as your instructor:

- I will be available to you via e-mail and phone, and will promptly reply, within 24 hours, to your messages. (48 hours on weekends).
- I will be available to you for virtual-classroom appointments as arranged.
- I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
- I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
- I will return all assignments to you promptly, and will include individualized comments and suggestions with each assignment.
- I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class without requesting your approval in advance.
- I will treat all members of the class fairly, and will do my best to accommodate individual learning styles and special needs.
- If any of these points need clarification, or when special circumstances arise that require my assistance, please contact me so that we can discuss the matter personally.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS

This course runs for fourteen weeks. This includes all coursework and final exam for a 3-credit graduate course.

There will be activities and exercises to accomplish in each module. *This is not a self-paced course*, so students need to commit time each week. Because we all have some experience and perspective that is worthwhile as we learn new concepts and methods, a primary instructional technique is collegial discussion and feedback from peers. Thus, it is critical that each student is able to block out enough time to work on this each week and contribute to the success of others as well as themselves.

This course is estimated to require **8- 12 hours each week during the course**. (Compare with a face-to-face schedule: 2 two-hour class meetings and an expectation to spend an equal amount of time in out-of-classroom preparation, per week).

Attendance & Participation

Regular attendance AND participation is essential for learning. Each participant is expected to attend the course each week. Attendance is measured by each student's presence in the discussion board, as well as the submission of assessments or other assigned homework. *Attendance is not the same as participation.* Simply logging on does not contribute to the class.

You will be expected to be present (meaningful post required) **3 out of 7 days for EACH MODULE.**

One Module will be assigned each week of the Fall Semester. Assigned work will be due, as listed in the syllabus and within each module, on Wednesday at 11:59 pm (EDT/EST) or Sunday at 11:59 pm (EDT/EST). Exceptions will be clearly noted in the syllabus.

For each Module:

You will be expected to be present (meaningful post required) **3 out of 7 days.** Each module will include components of **Theory** (readings, lecture, guided activities), **Practice** (Lab activities and experiments, Discussion Board Sharing) and **Assessment** (Assignments, Reflective Journal Response, Exams). For selected modules, you will also be creating and presenting materials to share with the class, individually, and also in groups, and will be required to provide peer feedback for one another's work. Rubrics and examples will be provided for all assignments.

Assigned work will be due, as listed in the syllabus and within each module, on Wednesday at 11:59 pm (EDT/EST) or Sunday at 11:59 pm (EDT/EST), unless otherwise specifically noted.

These guidelines may not reflect the actual amount of outside time that you – as a unique individual with your own learning style – will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively.

MATERIALS

You will be assigned a kit of materials to assist in completing many of the activities.

You have the option to:

1. Pick up your materials kit at LTU (It will be available Friday, September 7)
2. Have the kit shipped directly to you

Please e-mail me with your decision to pick up the kit or with your preferred mailing address by Wednesday, September 12.

The non-consumable materials must be returned to LTU by the end of the semester (December 11).

A fee will be applied to your account for late return of the kit.

ASSIGNMENT DETAILS

Course assignments and evaluation criteria are detailed below. Please review these requirements carefully. See the section Academic Resources / Assessment Guidelines for information about assessment of written and oral presentations.

Details for all assignments are shown below. Please note that you should not submit any assignments to the Blackboard "Digital Drop Box." All assignments are submitted using the Blackboard "Assignments" or "SafeAssign" function. Some assignments are also posted to the Blackboard Discussion Forum for student comments.

Nature of Science, Scientific Methods, Science & Inquiry, and Constructivism (100 points)

- I. Demonstrate understanding of Nature of science, science methods, and the relationship between science, inquiry, and constructivist theory by discussion board posts that include:
 - A concept map of "science" including at least 6 major links and at least 3 levels for each of 3 links. (15 pts)

- Draw or describe a scientist. Also, describe how your students might approach the same task. (10 pts)
 - Table of observations and inferences from “Tracks” activity (10 pts)
 - Lyrics and/or performance recording of song from “I Know I Can” activity (15 pts)
- II. Construct a 5 page thesis that discusses the nature of science, scientific inquiry, analysis of experimental results, how theories/concepts are presented to and gain acceptance by the scientific community, recognition of discrepant events, and definition of luck. Support and argue for your thesis with examples, evidence, and appropriate references. (50 pts)

Evaluation:

Discussion Board Posts: Complete and accurate response to prompt (up to 5 pts)
Organization, presentation and/or mechanics (Up to 3 points)
Originality, creativity (up to 2 points)
Compare and contrast elements of your own post with those of another posting (Participation/attendance, 3 posts per week required)

Thesis: Submit through *Safe Assign* as a draft.

Content (up to 20 pts)

Organization- minimum 5 page length, 2 or more referenced, scholarly/professional resources, logical progression of ideas and argument. (up to 10 pts)

Voice- professional, graduate level, editorial (up to 5 pts)

Conventions-APA style, (double spaced, 12 pt font), resource citation format, on-time, grammar, spelling (up to 15 pts)

Math Skills 15% of final Grade

Utilize review materials as needed.

Complete Math Skills assessment in Blackboard environment with at least 80% correct responses.

Chemistry- Properties of Matter; Physical & Chemical Changes (50 pts)

Upload and submit through “Assignment” feature within module:

- I. Design a rubric to assess performance based objectives for one of the activities listed below. Select a grade level, detail the objective(s) assessed, list criteria for evaluation, and scale for scoring. (25 pts)
- *Temperature and Phase Change
 - * Exploring Physical/Chemical properties of matter
 - *Conservation of matter
 - *Mystery Powders
- II. Create a PowerPoint presentation to explain the physical and chemical properties and specific phases for a selected element. (25 pts)
- Clear explanation for element selection (5 pts)
 - Factual details explain properties of element (5 pts)
 - Organization and structure to presentation (5 pts)
 - Reference citations included (5 pts)
 - Includes examples or activity to clarify ideas (5 pts)
- Compare and contrast elements of your own post with those of another posting (Participation/attendance, 3 posts per week required)

Library Resources & Capstone Project Seminar 40 points

Upload and submit through “Assignment” feature within module:

Annotated Bibliography

At least 4 citations (up to 20 pts)

APA format (up to 10 pts)
Resource citations from professional or scholarly sources (up to 5 pts)
Appropriate Key words or topic evident (up to 5 pts)

Weather 25 points

Upload and submit through “Assignment” feature within module:
Create a formal lesson plan for one of the activities presented in the readings or narrated PowerPoints for weather.

The Lesson Plan must include Scientific conceptual background (5 points), objectives/outcomes, MI GLCES for content AND process skills at a specific grade level (5 pts) , procedures for the teacher, cooperative grouping technique and plans for accommodating differentiated learners (5 pts), procedures for students to practice inquiry by asking questions, forming inferences, data collection, data analysis, forming conclusions, and communicating data (5 pts). Also must include criteria for assessing that objectives have been met with a rubric for evaluation (5 pts).

Astronomy 20 points

Post in discussion board:

Create a digital message consisting of less than 100 bits (10 x 10 grid or smaller). Must express a message or graphic symbol, and include the message and translation key.

Compare and contrast elements of your own post with those of another posting
(Participation/attendance, 3 posts per week required)

Life Science Adaptations (30 points)

Post in Discussion Board:

Make a “create a fish” adapted aquatic creature in the media of your choice. Upload a drawing or photo of your creature to blackboard (5 pts). Your creature must display an adaptation of each type: mouth/teeth, body shape, coloration, and reproduction (10 pts). Name the fish; describe its natural habitat, the adaptations selected, and how its traits enable it to survive (10 pts). Describe its food source and any predators (5 pts).

Compare and contrast elements of your own post with those of another posting (Participation/attendance, 3 posts per week required)

Peer Lesson Presentation 50 points

Post in Discussion Board. Each person will create a Narrated PowerPoint Presentation for a suggested lesson using *inquiry-based methodology* that stresses *learning cycle instruction* (25 pts). Lesson topics must be connected to the concepts presented in this course, and may be chosen from a list of suggestions, or must be approved by the instructor.

A written report must accompany the Presentation (25 pts) (Lesson Plan format) and should include: objectives, background information, materials needed, procedures, assessments, possible extensions, and appendix. Formative, authentic Assessment should be integrated into the lesson, as well as summative, formal assessment.

Compare and contrast elements of your own post with those of another posting (Participation/attendance, 3 posts per week required)

Reading Response Discussion Forum Threads

For each Discussion Board Forum Assignment, You must make one or more posts.

Each thread must be in response to the forum statement and must also include a reply or discussion on

another posting within the forum (Participation/attendance, 3 posts per week required).

Each Post will be assessed for:

Content (40%): A substantive answer to the question(s), showing clear evidence of understanding the reading material.

Organization (20%): Logical progression of ideas, Minimum 2 paragraph response to question or discussion on another thread post.

Voice (10%): Professional; objective, descriptive, or editorial depending on assignment directions.

Conventions (30%): APA style, grammar, spelling, required citations, on time.

Percentage (%)*	Comment Participation
90.0-100	<ul style="list-style-type: none"> The Participant consistently posted insightful comments and questions that prompted on-topic discussion. The participant consistently helped clarify or synthesize other group members' ideas. If disagreeing with other students' ideas, the participant stated his or her disagreement or objections clearly, yet politely.
80.0-89.9	<ul style="list-style-type: none"> The participant was notably lacking in one or two of the items listed for A-level participation. The participant consistently had to be prompted or coaxed to participate. The participant usually, but not always, expressed herself or himself clearly.
70.0-79.9	<ul style="list-style-type: none"> The participant was consistently lacking in two or more of the items listed for A-level participation. The participant was extremely reluctant to participate, even when prompted. The participant rarely expressed herself or himself clearly.
<69.9	<ul style="list-style-type: none"> The participant frequently attempted (success is irrelevant) to draw the discussion off topic. The participant was rude or abusive to other course participants. The participant consistently failed or refused to participate at all, even when specifically prompted or questioned.

MSE On-line Reflective Journal

Name: _____ Module _____ Date _____

Activity Title & Brief Summary	GLCEs/HSCEs addressed	Learning Cycle Phases addressed	Earned points deserved/ Possible Score	Comments

Please rate your **confidence** in your ability *to complete the objectives that you worked on this week*. Please explain your rating.

	1 . . .	5 . . .	10 . . .
	<i>I have no idea what we were talking about.</i>	<i>I could do this, if I had help.</i>	<i>Let me at it! This world is mine!</i>
Objective(s)			

Please share your impressions about your week. What did you like? What could be improved?

Online Participation (60 points)

Each student is expected to actively participate in online activities. Class participation is evaluated to a maximum of 60 points based on: – Actively participating in Blackboard discussion forums, at least 3 out of 7 days of the week for each module; responding to questions posted by the instructor, and interacting positively with other students.

Tests and Quizzes

In addition to the Math Skills survey, there will be one quiz in the blackboard environment for the Chemistry module (10 pts), and a Final Exam (100 pts). The final exam will be presented and Responses must be submitted as word documents.

SYLLABUS ADDENDA

Please see the LTU Online “Current Students” web site <http://www.ltu.edu/ltuonline/> for comprehensive information about Lawrence Tech’s academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included in these syllabus requirements.

The LTU Online “Current Students” web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the [eHelp web site](#) regarding the use of the SafeAssign product.

Undergraduates: Leadership Transcripts

The leadership transcript enables students to track co-curricular activities that are undertaken above and beyond the requirements of the LTU curriculum. The leadership transcript serves students by enhancing the leadership portfolio; providing the opportunity for a transcript of distinction; enhancing their resumes; and assisting in articulating leadership experience. It can be accessed by logging on to Banner Web and clicking the Student and Financial Aid tab. Leadership Activities is located at the bottom of the list. More information is available at <http://www.ltu.edu/leadership>.