ASTR 120.01E Life in the Universe

COURSE SYLLABUS: Spring 2026

INSTRUCTOR INFORMATION

Instructor: Dr. Billy Quarles, Assistant Professor
Office Location: Room 145, McFarland Science Building
Office Hours: **MWF 3-4pm; TR: 1-2 pm; by appointment**
University Email Address: Billy.Quarles@etamu.edu
Preferred Form of Communication: email or Slack
Communication Response Time: Before the end of the following business day

COURSE INFORMATION

Materials – Textbooks, Readings, Supplementary Readings

Textbook(s) Required

Life in the Universe, 5th Edition by Bennett, Shostak, Schneider & MacGregor
Publisher website: https://press.princeton.edu/books/paperback/9780691241784/life-in-the-universe-5th-edition
Courseware access will not be used or needed.

Software Required

- Slack (*Free*)
- NotebookLM (*Free*)

Course Description

Hours: 3
The basic science of the search for evidence of life in the universe, including the origin and evolution of life on the Earth, terrestrial extremophiles, the history of the search for life in the Universe, the search for habitable environments in the Solar System, and the search for habitable (exo-)planets and signs of life around other stars.

Are we alone in the Universe? In the 1500s, the Catholic Church executed a monk who dared to suggest the presence of other intelligent species living on other worlds, yet over the past century, popular culture has become littered with discussions of space faring civilizations being commonplace. But is life common? Is intelligent life common? What is intelligence, anyway? What is life?

Since the discovery of the first planets outside our Solar System in the mid 1990s, the science of astrobiology has grown by leaps and bounds. It is a very broad field that attempts to bridge biology, chemistry, geology, physics and astronomy under one monumental goal: the discovery of life elsewhere in the Universe.

In this course, we will explore the field of astrobiology. We will look at the necessary ingredients for life. We will learn about possible habitats for life in our own Solar System. We will explore how astronomers discover and study planetary systems around other

stars. And we will end by discussing the probability of other civilizations in the Universe and how we might find them.

Student Learning Outcomes

1. You will discuss the chemistry and origins of life on Earth.
2. You will employ knowledge of current and past life on Earth to identify criteria for habitability and life.
3. You will identify potential habitats in our Solar System.
4. You will calculate individual terms of the Drake Equation to estimate the number of intelligent civilizations in our galaxy.

COURSE REQUIREMENTS

Minimal Technical Skills Needed

You will need to be able to access myLeo Online and be able to learn how to use it. You should also be able to read PDF documents. You should be able to create either Microsoft Word documents (.docx) or plain text files. You must be familiar with Internet usage and safe browsing. You need to be able to watch YouTube videos on a computer. You need to be able to scan a QR code using your smartphone and/or complete a Google Form.

How This Course Is Organized

This course is organized for you to complete a chapter of material over ~2-3 hours per week. You should attend the lectures, listen to the audio overview, and check the course page on MyLeo Online often to see which chapters/sections we will be covering each week and/or the assignments that are coming due.

What Should You Do First?

After attending class and reading this syllabus, you should

- proceed to the course page on MyLeo Online and familiarize yourself with the resources.
- order the course materials if you haven't yet.
- join the Slack Workspace.

Slack Workspace

I have set up a Slack workspace for this class. This service lets you get announcements from Dr. Quarles and send him messages. Slack is similar to Discord, but it is often used in a more professional setting. I urge you to use this service, where you can have 1:1 and group messaging. The invite link to the Slack Workspace is available on myLeo Online.

Slack is free, where your messages are only visible for 90 days. Slack is private; only Dr. Quarles will see your ***direct*** messages. Comments on the public channels are visible to

everyone, where you can reply to comments as a thread (*please use threads*). **The Slack channels are a place for communication and collaboration, not mischief.** This will also be a place for me to post random things happening in astronomy that you may find interesting.

Instructional Methods

Discussion and Lecture Quizzes

To give you an incentive to engage with the class and keep up with the work, I will encourage in-class discussion of certain topics. Each class meeting, you will complete a short quiz over some of the information covered in the lecture. **You will receive full credit for completing the quiz, where the only way for your quiz grade to decrease is not to complete it.**

Each week you will complete three discussion posts that will have the following themes:

1. **Ask your peers a question:** In this post, you will ask a question and reply to another student's question with constructive criticism.
2. **Answer an in-depth concept question**: In this post you will choose 1 topic question to answer, where you will post your answer and critique the response of your peers.
3. **Ask your instructor a question**: In this post, you will have an opportunity to ask the instructor any question you have concerning a topic within the unit.

The post will be evaluated using the following rubric:

Category	Points	Description
Initial Post	4	Clearly explains course concepts with original reasoning or examples.
Peer Reply	3	Responds meaningfully to a classmate's post with a question, clarification, or insight.
Effort & Clarity	2	Posts are well-written, organized, and show thoughtful effort.
Deadline	1	Initial post **submitted 3 days early** so others have a chance to reply. **Ex., due date Jan 20; sub date Jan 17.**

Further details concerning the criteria for each grading category are available for review on myLeo Online. **AI Use Policy:** Posts must reflect your own thinking. Content generated entirely by AI (e.g., ChatGPT) will earn **zero credit** unless it is clearly revised, meaningfully expanded, and clearly documented.

Exams

Schedule & Format: There will be four non-cumulative exams and one **optional, comprehensive final exam**. While exams focus on material covered since the previous test, the interconnected nature of astrobiology means earlier concepts may still apply.

Grade Replacement and Drop Policy:

- **Assignments**: To account for emergencies or technical difficulties, your **two lowest Homework scores** and your **two lowest Discussion scores** will be automatically dropped from your final grade calculation. This happens automatically for all students.
- **Exams**: The final exam is optional. If you choose to take it, the score will automatically replace your **single lowest regular exam score**. This is the only remedy for a missed or low-scoring exam. There is no makeup for the final exam itself.

Makeup Exams: Makeup exams are only for documented, extenuating emergencies (e.g., medical crisis, death in the family). You must email me with official documentation to be considered. Do everything in your power to take exams as scheduled.

Academic Integrity: You must work on all exams alone. Communication or collaboration of any kind (e.g., with classmates, via texting, Zoom, ChatGPT, etc.) is strictly forbidden and constitutes academic dishonesty. Violations will result in a zero on the exam and further disciplinary action.

Homework Quizzes

Homework is assigned weekly through **myLeo Online** and consists of about **eight questions per assignment**: usually **six written questions** and **two short concept explanation videos**. Homework is designed to support conceptual understanding, revision, and clear explanation rather than polished writing.

Written Questions (~6 per homework quiz)
Each written question requires **three components**:

1. **Initial Attempt**
   Write a short paragraph (**3–5 sentences**) explaining the concept in your own words. This response must reflect your understanding *before* using AI tools.
2. **AI-Assisted Revision (with Markups)**
   Obtain feedback on your initial response using **NotebookLM**. Submit the revised paragraph **with AI-suggested changes clearly marked** (e.g., bold text, strikeout, or inline comments). **Do not submit a clean final version.** The visible changes are required.
3. **Reflection**
   Write **2–3 sentences** explaining how the AI feedback improved your explanation, focusing on conceptual clarifications or corrections rather than grammar.

The goal of these questions is to demonstrate understanding, critical evaluation of AI feedback, and engagement with the revision process. See myLeo Online for a guide to using NotebookLM on your homework quizzes.

Concept Explanation Videos (2 per homework quiz)

For each assignment, you will record **two short videos (60–120 seconds each)** explaining assigned concepts in your own words.

- Do not read from a script.
- You may gesture, sketch diagrams, or reference visuals.
- Clarity of explanation and conceptual understanding are emphasized.

These videos serve as both a learning tool and an authenticity check.

Grading

Written questions are worth **10 points* each** (60 points total). Grading is based on:

- Initial attempt quality (**4 points**)
- Visibility and relevance of AI-assisted revisions (**3 points**)
- Reflection on how AI feedback improved understanding (**3 points**)

A missing, superficial, or clearly AI-generated submission receives **0 points for that question.*

Each video is worth **10 points** (20 points total), based on clarity and conceptual understanding. Up to **2 points** (per video) may be deducted for reading from a script or heavy rehearsal.

Deadlines and Late Work

Homework assignments are due approximately **one week apart**.

- Late homework is penalized **10% per day late**.
- Assignments submitted **more than 2 days late** will receive a **zero**.

Use of Homework for Studying

Homework responses are intended to function as a **study guide** for quizzes and exams by documenting your initial thinking, AI-assisted revisions, and reflections, along with verbal explanations in the videos. ***The homework quizzes are more easily completed if you work on 1-2 questions per day (~30 min) and do not wait until the due date.***

Please consult the detailed rubrics for both standard questions and video questions on myLeo Online to fully understand all assessment criteria.

The following are considered cheating and will not be tolerated. Directly copying text from a website (e.g., Quizlet) or other printed source, obtaining copies of solutions to homework questions (whether from past students or other sources), directly copying another student's work, etc. **Suspected use of generative AI (such as ChatGPT) that is undocumented and submitted as original work. See the section on "Academic Integrity" for full details.**

Extra Credit: Extra credit is available "a la carte" to give you an opportunity to enrich your learning experience in the course. The full details (conditions) for each extra credit opportunity can be found on myLeo Online. These opportunities are not indicative of the difficulty of the course. You may earn extra credit for each activity only once, unless otherwise noted. There are no other options for extra credit. **All extra credit must be completed by 11:59pm on Friday before finals week.**

Book Review: Read (or listen to) a book from a popular non-fiction science writer. Most books of this type are inexpensive (<$20) and some are available as audiobooks that are read by the author. Completion of this review will add up to 3 points to your final grade.

Movie Review: Critically examine a popular science fiction movie (e.g., The Martian). Prepare a 4-page movie review discussing the good and bad science depicted in the film. Completion of this review will add up to 3 points to your final grade.

Video Interviews: You and a classmate will conduct interviews of ETAMU students (who are not enrolled in the class). Your interviews will be centered around a question about counterintuitive idea/topic that you learned in this course. These interviews must be edited together to produce one ~4-5 min video and submitted by email for credit as a YouTube link. You **and** your classmate will receive up to 3 points for both of your final grades.

Video Shorts: You will receive a bonus point on your lowest (non-dropped) exam for creating a 1-minute video explaining a homework question (maximum 10 videos/points) and submitted for credit as a YouTube link. This video will be shared on myLeo with the rest of the class.

Physical Art Project: You will create a piece of physical art (e.g., model, drawing, painting, sculpture) that illustrates/symbolizes a concept that you found interesting in the course. Completion of this project will add up to 3 points to your final grade.

Research Project: You will perform more in-depth research of a topic you found interesting in the course. At the conclusion of your deep-dive you must prepare a short video or 4-page paper summarizing your findings. Your summary must go beyond the material discussed in class and not just parrot it back. Completion of this project will add up to 3 points to your final grade.

Visit a planetarium show*:* The East Texas A&M University Planetarium exhibits several different shows every Friday night at 7 pm and 8 pm. If you attend a show, tell the staff that you are a member of this class. The staff will have class rosters; you are responsible for making sure the staff mark down that you attended. You will receive 1.5 points on your final grade.

Visit the Commerce Observatory: You will have two opportunities for a visit to the Commerce Observatory (about 5 miles south of Commerce). On two evenings (dates to be announced), we will have telescopes set up to look at planets and other interesting objects in the night sky. At each session, there will be an activity you must complete to earn extra credit. One visit is sufficient. Times and transportation options will be announced closer to the event. You will receive 1.5 points on your final grade.

Student Responsibilities or Tips for Success in the Course

Students who do well in this course share most of the following common habits:

- **Working on the course a little bit every day.**
- Checking myLeo often for announcements and assignments
- **Preview Discussion and Homework questions before attending the lectures to guide your note-taking.**
- Completing all assignments on time
- Asking for help and advice early in the semester
- Taking responsibility for their own grade.

GRADING

A letter grade is determined only at the end of the term. Course grades will be based on quizzes, homework assignments, and exams. Grades are based on a weighted system.

Grading is on an absolute scale with no competition. If you all earn an A, you all get an A. I may "curve" grades for specific assignments at my discretion; your percentage earned will never go down if I apply such a curve. Your current grades are available through the gradebook on myLeo Online – look for "**Final Calculated Grade**."

Category	Cumulative Weights	Individual Weights
Lecture Quizzes	10%	0.2%
Discussion	10%	1%
Homework	20%	2%
Exams I-IV	60%	15%
Final Exam	15%*	15%

*Final is cumulative and replaces lowest exam grade

Grading Scale	
A	90 -- 100%
B	80 -- 89%
C	70 -- 79%
D	60 -- 69%
F	<60%

Overall Grade Calculation Example

Category	Score	Weight	Points
Quizzes	90	0.10	9.0
Discussion	90	0.10	9.0
Homework	85	0.20	17.0
Exam I	65	0.15	9.8
Exam II	75	0.15	11.3
Exam III	0	0.15	0
Exam IV	88	0.15	13.2
Final Exam	90	0.15	13.5
Overall Grade			**82.8**

TECHNOLOGY REQUIREMENTS

LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements
LMS Requirements
LMS Browser Support
Zoom Video Conferencing Tool

ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or helpdesk@etamu.edu.

Note: Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

COMMUNICATION AND SUPPORT

If you have any questions or are having difficulties with the course material, please contact your instructor.

Technical Support

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here: https://community.brightspace.com/support/s/contactsupport

Interaction with Instructor Statement

Email: I can be reached by email at Billy.Quarles@etamu.edu. It may take me up to 24 hours to send you a response (48 hours on the weekend or holidays).

Slack Direct Message: I can be reached via Slack Workspace. See above for details.

Office Hours: Office hours are available in both face-to-face and virtual formats. Student hours are times that I set aside when I promise to be in my office so that you can come by and talk to me, no appointment needed. During student hours, you can ask questions about the course material, ask about homework, see your current grade, or ask other questions about the class or astronomy in general. **Note: you're paying to understand the material, get your money's worth.**

If you want to talk but cannot come during office hours, please **email or DM me on Slack** to schedule an appointment. We can schedule a time for you to speak to me face-to-face or by video conferencing.

You may feel free to stop by my office any time my door is open, but if you do not have an appointment and if it is not my scheduled student hours, please understand if I'm not free to talk at that instant.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

Academic integrity

A major goal of this course and most other university courses is for you to learn and appreciate subject material. Academic dishonesty ("cheating") actively prevents you from achieving this goal. Academic dishonesty is taken seriously by the University and by me and ***will not be tolerated.*** (See the ETAMU Code of Student Conduct and the ETAMU Procedures A 13.04, 13.12, 13.31, and 13.32.)

This conduct is not only considered wrong in this course and at this University, but also in the real world. Engaging in these activities will get you fired from a job and prevent you from getting another job.

Unethical student conduct includes:

- **Plagiarism**, or copying the words of others with the intent of making it look like your own. Whether you use someone else's phrase word for word, or whether you try and change a few words, or even if you just borrow someone else's original idea and don't give them credit, that's unethical. Use your own words whenever possible, give credit to wherever you got an idea, and put direct quotes inside quotation marks. *Your answers should not consist of only direct quotes.*
- **Cheating** involves trying to trick me or others into thinking you did work that you really didn't do, or into thinking you know what you really don't know. This can include stealing exams, changing your answers on a graded exam or assignment and claiming it was graded wrongly, putting your name on someone else's homework, and so on.
- **Searching the Internet for homework solutions and entering answers you find is considered cheating.** Searching the Internet for help on a topic is okay. For example, suppose a question asks, "Describe the life cycle of a star that has the same mass as the sun." Typing that phrase into Google and cutting and pasting the text in the answer box is considered cheating. Typing "star life cycles" into Google, reading a few web pages, and summarizing the information in your own words is not cheating.
    - The use of generative AI, such as ChatGPT, is only permitted when an assignment explicitly asks you to use it.
- **Borrowing another person's work** is considered cheating. "Borrowing" includes looking at someone's submitted homework, Smartwork accounts, graded exams,

screen shots, etc. with or without their permission. “Another person” includes not only present and past students, but also anyone else who might have access to solutions.

- **Collusion** is working with another person to cheat. This can include copying someone else’s answers to an exam or assignment, doing work for another student, buying or otherwise obtaining homework/exam solutions from any source online or off-line, or any other instance of multiple people engaging in some form of cheating or dishonesty. Working with other students on an assignment is fine as long as **everyone contributes** and **each student does their own work**.
- **Any other activity that, to a reasonable person, looks wrong.** If you have any doubt whatsoever whether a certain action is considered dishonest, please ask me *before* engaging in the activity. There is no need to be embarrassed about asking, and I won’t penalize you for asking!

If you engage in academic dishonesty during any graded activity, you will receive no credit for that activity. More than one instance of dishonesty by a student will result in automatic failure of the course and referral of the student for disciplinary action.

For further information, search the East Texas A&M University website for “academic integrity policy”. myLeo Online provides me with tools that check for common forms of online cheating, and collusion. These include, but aren’t limited to: time stamps, location stamps, and automated comparison of essay answers. *I will use these tools.*

- **Administrative Withdrawal:** Although I have the right to drop you for excessive absences (called “administrative withdrawal), I won’t do so. You have a right to get an F if you decide to quit working but don’t drop the course.
- **Assignment Policy and Due Dates:** Assignments and due dates will be posted in the MyLeo Online course calendar for each assignment. Submission requirements for each assignment will also be given on that page.
- **Dropping the Course:** You may drop this course by logging into your myLeo account and clicking on the hyperlink labeled 'Drop a class' from among the choices found under the myLeo section of the Web page.
- **Incompletes:** I only offer incompletes in *extraordinary* circumstances. Any student interested in an incomplete should contact me as soon as possible after the situation arises, and should keep in mind that I am not required to give you an incomplete. You should also know that you only have access to a myLeo Online course for two weeks following the final day of term.
- **Late Work:** Late assignments are **penalized 10% per day** if turned in after the deadline. ***After 2 days, late assignments will receive a zero.*** Exams may only be taken late by arrangement and permission with the instructor, otherwise missed exams will receive a zero. The instructor has final discretion on whether to give a make-up exam. All work must be finished by the end of the day on the last day of classes.
- **Technical Issues:** Personal computer problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods

might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, many restaurants, Interstate Rest Areas, etc.

Syllabus Change Policy

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: https://www.britannica.com/topic/netiquette

ETAMU Attendance

For more information about the attendance policy please visit the Attendance webpage and Procedures 13.99.99.R0.01

Academic Integrity

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures:
Undergraduate Academic Dishonesty 13.99.99.R0.03
Undergraduate Student Academic Dishonesty Form
Graduate Students Academic Integrity Policy and Form
Graduate Student Academic Dishonesty Form

Students with Disabilities-- 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 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
Velma K. Waters Library Rm 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu
Website: Student Disability Services

Nondiscrimination Notice

East Texas A&M University 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 Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University 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 East Texas A&M University Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the Carrying Concealed Handguns On Campus document and/or consult your event organizer.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M University campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

AI use policy

[Draft 2, May 25, 2023]

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism). Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty

East Texas A&M University Supports Students' Mental Health

The Counseling Center at East Texas A&M University, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145, or **www.etamu.edu/counsel** for more information regarding Counseling Center events and confidential services.

Mental Health and Well-Being

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available to you for guidance and support whenever you need it.

COURSE OUTLINE / CALENDAR

The course will cover many of the topics outlined below. The dates below may change, so pay attention to announcements for final due dates. See the Google Calendar for exact dates. The week number and days you should spend give you a guide for pacing the course. **Note that you should allocate ~1 hour each day to complete the homework by the given deadline on myLeo Online.** Homework and discussion posts are due weekly

Week(s)	Chapter(s)	Topic(s)
1-2	1	A Universe of Life
2-3	2	Science of Life in the Universe
3-4	3	Universal Context of Life
4		**Exam I (Friday, 2/6)**
5-6	4	Habitability of Earth
6-7	5	Nature of Life on Earth
7-8	6	Origin and Evolution of Life on Earth
8		**Exam II (Friday, 3/6)**
9		**Spring Break**
10	8	Mars
10	8	Mars
10-11	9	Life on Jovian Moons
11-12	10	Nature and Evolution of Habitability
12		**Exam III (Monday, 4/6)**
12-13	11	Exoplanets
13-14	12	Search for Extraterrestrial Intelligence
14-15	13	Interstellar Travel & the Fermi Paradox
15		**Exam IV (Wednesday, 4/29)**
16		**Final Exam (Monday 5/4 @ 1:15pm)**

Important Class Dates:

- Jan 12: First Day of Class
- Jan 19: **No Class** (MLK Day)
- Mar 9-13: **No Classes** (Spring Break)
- May 1: Last day to complete any extra credit
- May 1: **Last Day of Class**