



Thomas Hart Benton's "The Race" (1942) suggests a major energy transition on the Great Plains

THE ENERGY HISTORY OF THE UNITED STATES

This course introduces students to American energy history from the colonial era to the present climate change crisis. It focuses on the epochal shift from organic to mineral energy sources that carried the world into the carbon age during the nineteenth and twentieth centuries. Our core concept will be “energy transition,” or the manner in which one “energy regime” succeeds another. Energy transition was at the root of the material transformations that brought forth the modern world. It is now needed again to save modernity from itself.

While this course is partly motivated by our present predicament—and I hope it can contribute something to a better understanding of where we stand and where we are heading—the primary aim is historical. That is, we will try to understand the specific patterns, experiences and meanings of earlier periods *on their own terms*. Although our focus will be on the United States, we will also consider experiences elsewhere.

COURSE POLICIES & ADMINISTRATIVE DETAILS

Course details

HIST 1321-004

Spring 2024

TuTh 2:00 – 3:20 pm

Caruth Hall 147

Instructor

Ariel Ron

aron@smu.edu

Office hours: W 1-2:30 pm & Th 3:30-4:30

Tags and SLOs


- GE I Historical Contexts (HC): Students will demonstrate an ability to engage in historical thinking.
- PE I Human Diversity (HD): Students will demonstrate an understanding of human diversity and the systems of structural inequality that shape human experiences and behaviors.
- PE I Oral Communication (OC): Students will demonstrate an ability to engage in clear and concise live communication.
- PE I Writing (W): Students will demonstrate university-level writing proficiencies appropriate to their coursework.

Assigned texts

The following texts should be purchased or otherwise be in your possession. Fortunately, all are available as e-books via the library catalog:

1. David E. Nye, *Consuming Power: A Social History of American Energies*
 2. Christopher F. Jones, *Routes of Power: Energy and Modern America*
 3. Additional assigned readings will be available on Canvas
- Course readings must be completed prior to the class for which they are listed. Read carefully, take notes, and jot down questions for discussion.
 - If you go the e-book route, it's best to download the full book as a PDF so you can highlight and annotate. Typically you have to download and assemble sections. Use Adobe Acrobat DC or DC Pro if you have access. Otherwise, GoodReader is a good inexpensive option or try looking here: <https://www.techradar.com/best/adobe-acrobat-alternatives>.
 - Beside the monographs (academic books on a single topic) listed below, additional assigned readings will be available on Canvas.
 - Do not use Kindle books.

Grading

Reading quizzes	20%			
Participation	10%			
Presentation	5%			
Midterm exam	15%			
Writing project	50%			
			Memo 1	12%
			Memo 2	12%
			Memo 3	12%
			Final report	14%

Important! Note that this course has no final exam (although there is a midterm). Your grade will be determined by how diligently and skillfully you complete the readings and multi-part writing project.

Policies and etiquette**(1) Attendance**

- a. Prompt and regular attendance at all class meetings is required unless special circumstances intervene, such as an illness, religious observance or university extracurricular event.
- b. To have an absence excused, you must present documentation of the special circumstance.
- c. For every five unexcused absences, your participation grade can be reduced by a full letter grade at my discretion.

(2) Reading and discussion

- a. Reading assignments should be completed prior to the class for which they are listed.
- b. Books, whether physical or electronic, must be in your possession. Don't delay getting them. If there is some reason that this is a problem for you, let me know and I will assist you.
- c. Class discussions require everyone's active and respectful engagement.

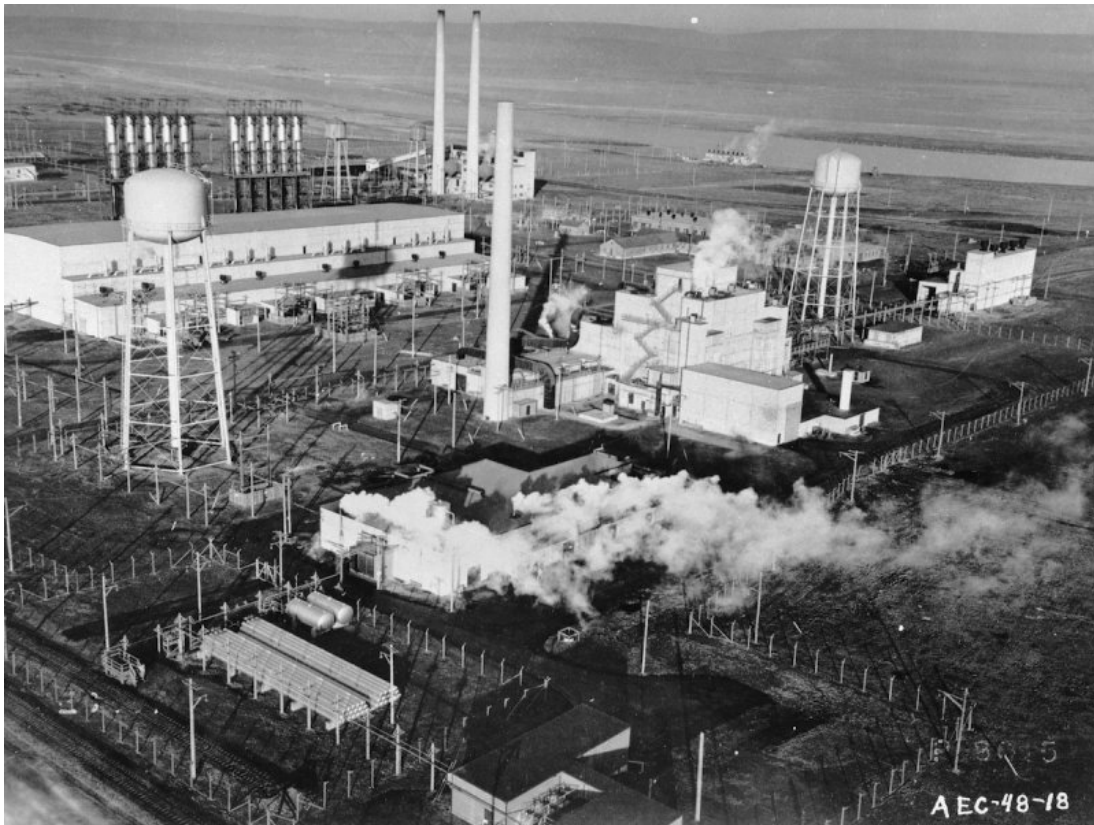
(3) Classroom and communications

- a. No laptops or devices can be used in class. There are two exceptions:
 - i. If you require accommodations, please let me know and I will make an appropriate exception.
 - ii. E-readers and tablets can be used only during discussions and only when laid flat on your desk. (These admittedly pedantic rules are needed to avoid distractions which, in my experience, really do harm your learning process.)
- b. The midterm exam will be an in-class "blue book" exam.
- c. Official class communications will occur by email and/or Canvas only. Be sure to check regularly or set alerts as needed.

Statement on plagiarism and generative AI

Passing off another person's ideas as your own is a serious breach of university policy, common-sense ethics, and my expectations of you for in this course. Should I discover a case of plagiarism, I will not hesitate to refer it for disciplinary action. To avoid unintentional plagiarism, remember two things. First, always cite all quotations, paraphrasing and other usages of another person's work. Second, always focus on what you yourself have to say. That's what is most interesting, what you are best qualified to deliver, and what you most want to develop. Also see the standard "academic dishonesty" statement below. Be forewarned: papers will be scanned with Turnitin.

In this class, the use of generative AI (ChatGPT etc.) is strongly discouraged. To the extent that it's permissible, it must be distinctly limited. This means that you may seek assistance when it comes to the writing but not the substance of your memos and reports. Be very careful. You cannot simply copy and paste whole paragraphs. All assignments require use of the assigned texts, including direct quotations. AI will not do this for you. AI is also notorious for inventing false facts as examples. Do not fall into this trap. (Needless to say, were this an actual employment situation, you wouldn't last long by providing your superiors with false information.) More importantly, as with direct plagiarism, the key is to focus on your own ideas, your own analyses, your own way of articulating your thoughts.



Dawn of the nuclear age: America's first plutonium production plant at Hanford, Washington, c. 1955

ASSIGNMENTS

Reading and quizzes

Although I'll do some lecturing in this course, class time is primarily for discussion. It's therefore critical that you prepare by reading diligently and consistently. To help keep you on task and to help me assess your comprehension, we'll have frequent reading quizzes at the start of class. These will be short and straightforward. They're not intended to trip you up, but simply to gauge if you've read with an adequate level of understanding. Quizzes are graded pass/fail.

Participation

You are required to attend, engage with, and actively participate in every class. Your performance will be evaluated throughout the semester on the basis of my subjective impressions together with objective measures such as your attendance record and timely completion of ancillary assignments.

Presentation

For each class, one or more students will be assigned to choose a recent news item relating to energy issues for a brief classroom presentation and discussion. This is a relatively easy way to earn 5% of your grade. Everyone else is expected to be ready to respond to the presentation.

Midterm exam

This will be explained in detail during a review session in the week of the exam.

Writing project

The main assignment for this course is a multi-part writing assignment based on an imaginary, yet plausible, scenario:

You work for a consulting firm, IdeaBase, that has been hired to advise the Metropolex Energy Transition Taskforce (METT), a joint initiative of local municipal governments, businesses and community organizations working to set a regional agenda for a green energy transition in the Dallas-Fort Worth metroplex. METT wants to understand the big-picture issues involved in transitioning away from an energy system based on fossil fuel stocks that emit greenhouse gases. IdeaBase will produce reports by an array of experts, including an economist, a sociologist, an energy technology specialist, and a political analyst. Your job is to write the historian's report, providing essential context for understanding fundamental issues. Your goal is to inform your team and clients about past energy transitions in order to help them think broadly about the implications of their choices. To that end, your boss, Janice Watson-Murakami, has sent you to SMU to take HIST1321: The Energy History of the United States.

The reports you write will be different from standard college papers. Neither Janice nor your clients at METT are professors. They haven't read the books that you'll have read, nor have they attended lectures and class discussions. They are busy people, but they are eager to know what you've learned. Your job is to communicate what you know as clearly and concisely as you can.

Since you are new with the firm, Janice has tasked you with a series of internal memos in which you will take up specific subjects that relate to the bigger picture that you will ultimately report on. In addition, you will write a preliminary report for Janice to comment on, before issuing your final report.

You should include a standard heading, but you're otherwise free to format things as you like. If you want to use graphs, illustrations, bullet points, tables, or section headings, do so. Whatever the format, your memos should feature clear, fluid and persuasive prose. Remember, you are trying to look good in front of your boss and your clients.

A standard memo heading looks something like this:

Memo 1
To: Janice
From: [your name]
Date: [due date]
Subject: [brief and interesting subject description; e.g., "Energy and the Industrial Revolution: Gift to Humanity or Ticking Time Bomb?"]
 Yadda yadda yadda coal . . . badda bing badda boom electrification . . .

Memo 1: The coal energy transition

In this memo you will discuss Great Britain's shift to coal, the most profound energy transition since the Neolithic agricultural revolution. You will explain the transition's origins (the sources of change), dynamics (the manner in which change unfolded), and stakes (the human impact or significance of the change). To do this successfully, you will probably need to explain some key concepts, such as energy regime (organic vs. mineral), Malthusian trap, and sociotechnical system. These concepts are not merely terms to define, but analytic tools you can use to aid your reader understand the coal transition.

Your memo will be based to a large degree on our first two-weeks' readings (Burke III, Kedrosky, Goodman, Malm) as well as lecture and discussion material. Be sure to reference these sources for key ideas and illustrative quotations.

Don't forget your audience: Janice! (Me.) Janice will be looking to see that you can provide clear explanations of some complex concepts and historical processes.

Due: Monday 2/5 at noon via PDF upload to Canvas. Bonus for early submission by the end of previous Friday.

Length: ~1,200 words.

Memo 2: Energy intensity in America

In this memo you will discuss the emergence of a uniquely intensive American energy regime in the nineteenth century. The word "intensive" implies a relative measure, a ratio. In this case, we are comparing energy output (or usage) to population. It turns out that Americans used enormous amounts of energy on a per-capita basis well before the full-blown fossil fuel era. How do you explain this? What relationship does the first half of the century, in which the country was only beginning to transition from an organic to a mineral energy regime, have to the second half of the century, in which not only coal but oil transformed the country profoundly?

To answer these questions, you may want to use some of the concepts from the first memo as well as new ones we have encountered and discussed, such as technological momentum, landscapes of intensification, and sacrifice zones. You may also want to compare and contrast the US case to the British one you discussed in your first memo.

As before, you should proactively draw on the class readings, lectures, and discussions. And as always, remember your audience. You're still trying to impress Janice with your analytic and writing abilities, but you might also want to try to show her that you can ultimately speak to the interests of your clients at METT.

Due: Monday 3/4 at noon via PDF upload to Canvas. Bonus for early submission by the end of previous Friday.

Length: ~1,200 words.

Memo 3: Energy justice in twentieth-century America

In this memo you will define the concept of energy justice and apply it to one or more aspects of American energy history in the twentieth century.

Whereas the first two memos asked you to explain distinct phenomena (Britain's shift to coal, America's intensive energy regime), here you are being asked to grapple with normative questions. That is, you are being asked to say what was right and wrong and by what standard. But issuing judgments on the past from the comfort of the present isn't enough. You also have to explain what you think ought to have been done and how.

The essential point is that you evaluate the equity—the basic fairness and justice—of a significant development in energy history. To do so, you will need to develop historical empathy for actors in circumstances very different from your own and to think deeply about the appropriate ethical standards and the realistic possibilities.

Janice will be looking to see whether you can put yourself in someone else's shoes and see the world through their eyes.

Due: Monday 4/15 at noon via PDF upload to Canvas. Bonus for early submission by the end of previous Friday.

Length: ~1,200 words.

Final Report

The final report represents your effort to address the big question that your firm was hired to answer. You have now taken in a semester's worth of books, lectures and discussions. Your boss wants to know: What can American energy history help us to understand about the prospects for a green energy transition in the United States today? Needless to say, this is a hard question. There is no obvious right answer and nothing in the course materials has really given you an answer, although by this point we will certainly have run through some ideas. Your job is therefore not simply to report back what you've read and heard, but to use the available materials creatively to think your way through a difficult question.

Your report must include an executive summary at the beginning. This is a concise overview of your main conclusions for busy readers. Your report should incorporate and extend insights you developed in your previous memos. It is not, however, just another memo. It should be longer and written more formally. But length and formality are not what's most important. Substance is. Janice (me) will be far more impressed if you can put the course material to intelligent use than if you can cram in references to everything covered in this class. Remember, your imagined readers are your team members and the folks at the Metroplex Energy Transition Taskforce. They are broadly educated, but they are not historians, and so you should only present them with the details that you think will be useful to answering their questions and stimulating fruitful lines of thought.

Important: you are the team's historian, not its technologist, political guru, finance guy or anything else. You have been tasked with bringing the past to bear on the present. In essence, you have been sent on a journey through time and have returned a different person with some new perspective. Your job is to convey the essentials of that perspective in a cogent and compelling manner.

Some advice:

- (1) It's okay to narrow the question. "I want to focus on the cultural issues, because I think history shows that they'll be important" would be an appropriate way to frame or begin the report. Alternatively, you might decide that politics is the crucial factor for METT to consider, and you can write about that.
- (2) Get specific. Avoid vague appeals to human nature ("History shows that humans can solve any problem" or "History shows that markets reward only short-term goals") and try to replace them with arguments that engage deeply with past experience.
- (3) Draw on your previous memos but don't just rehash them.
- (4) The best reports tend to take the role-play element seriously. In other words, the students who imagine themselves as consultants writing to a client tend to do better.

Due: Monday 5/6 at noon via PDF upload to Canvas. Bonus for early submission by the end of previous Friday.

Length: ~1500-2000 words



Oil derricks on Huntington Beach during the late 1920s. Source: Paul Sabin, *Crude Politics the California Oil Market, 1900-1940* (University of California Press, 2005).

CLASS SCHEDULE

PART 1 The Organic Energy Regime and the Malthusian Trap

WEEK 1 Why energy history?

Tu 1/16 Introduction

Th 1/18 Burke III, "The Big Story" (pp. 50-68)

WEEK 2 The Malthusian trap

Tu 1/23 Kedrosky, "The Malthusian Trap: An Extremely Short Introduction";
Goodman, *Domestic Revolution*, intro

Th 1/25 Goodman, "The Draw of Coal"

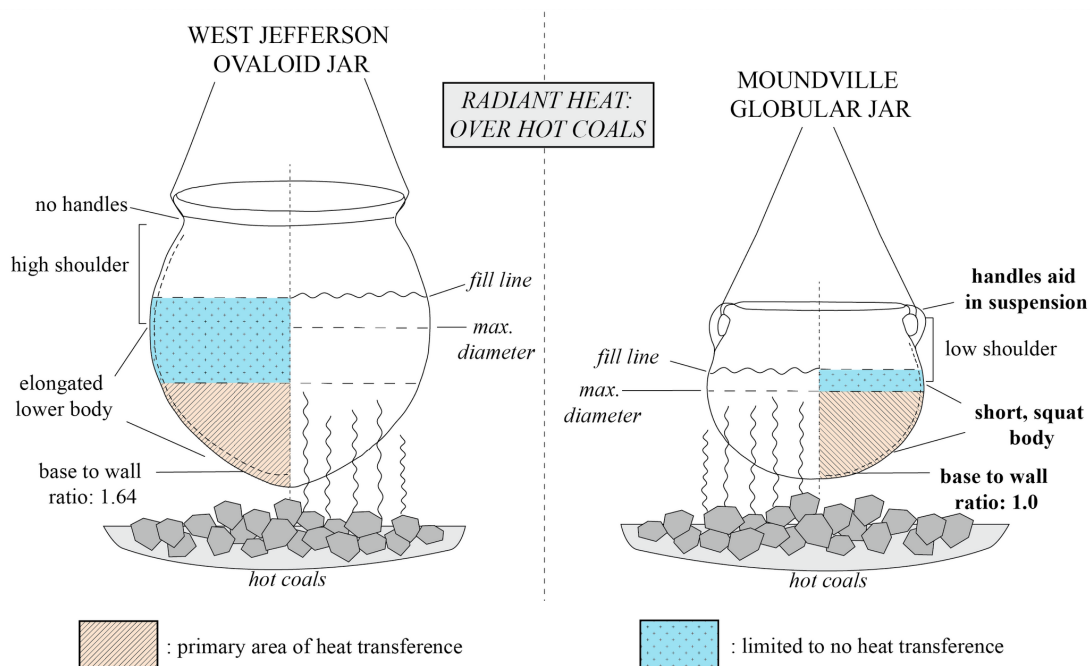
WEEK 3 Escape from Malthus: coal, steam & the Industrial Revolution

Tu 1/30 Malm, *Fossil Capital*, pp. 96-164; MacDonald, "Cold Eye"

+ each student must post two questions for MacDonald on Canvas

Th 2/1 Guest visit and discussion: GREGOR MACDONALD on energy transitions
past, present & future

++ Memo 1 due Monday 2/5 at noon ++



Native American improvements in cooking technology c. 1000 AD. Source: Rachel Briggs, *All Things Hominy* blog, <https://allthingshominy.com/>.

PART 2 The Intensive Energy Regime in America before 1900

WEEK 4 **Early America**

Tu 2/6 Nye, *Consuming Power*, intro + chap. 1 (pp. 1-42)

Th 2/8 Nye, chap. 2 (pp. 43-70)

WEEK 5 **Coal & steam**

Tu 2/13 Jones, *Routes of Power*, chap. 1-2 (pp. 23-88)

Th 2/15 Nye, chap. 3 (pp. 71-102); Howes, "Lessons from the Age of Coal"

WEEK 6 **Oil & light**

Tu 2/20 Jones, chap. 3-4 (pp. 89-160)

+ each student must post two questions for Howes on Canvas

Th 2/22 Guest visit and discussion: ANTON HOWES on lessons from the coal energy transition

WEEK 7 **Muscle power**

Tu 2/27 Hämäläinen, "The Rise and Fall of Plains Indian Horse Cultures"

Th 2/29 Andrews, "Dying with Their Boots On"

++ Memo 2 due Monday 3/4 at noon ++

WEEK 8 **Midterm exam week**

Tu 3/5 Review session

Th 3/7 Midterm exam

>> SPRING BREAK 3/11 – 3/17 >>

PART 3: Considerations of Energy Policy in the High Industrial Age

WEEK 9 **Early electrification**

Tu 3/19 Nye, *American Illuminations*, chap. 2, "Energy Transitions"

Th 3/21 Jones, chap. 6 (pp. 195-226); chap. 5 recommended

WEEK 10 **Energy & the New Deal**

Tu 3/26 McCraw, *The TVA and the Power Fight*, selections

Th 3/28 Needham, "Sunbelt Imperialism"



Detail from Diego Rivera's *Detroit Industry* fresco cycle at the Detroit Institute of Arts

WEEK 11 **Postwar consumerism & the great acceleration**

Tu 4/2 Nye, chap. 7 (pp. 187-216)

Th 4/4 McNeil and Engelke, *The Great Acceleration*, pp. 1-40

PART 4 The Globalized Energy Regime after World War II

WEEK 12 **The atomic promise**

Tu 4/9 Walker, "The Nuclear Power Debate of the 1970s"

+ each student must post two questions for Berrington on Canvas

Th 4/11 Guest visit & discussion: AMY BERRINGTON on the epidemiology of carcinogenic radiation

++ Memo 3 due Monday 4/15 at noon ++

WEEK 13 **Petrostates & oil crises**

Tu 4/16 Painter, "The Marshall Plan and Oil"; Dochuk, "Blessed by Oil, Cursed with Crude"

Th 4/18 Jones, "America, Oil, and War in the Middle East"; Brew, "The Price of Oil"

WEEK 14 Climate change

Tu 4/23 Class choice:

- (a) The authority of climate science: Oreskes, “Consensus on Climate Change” and “Why Trust Science?”
- (b) Renewable energy politics & policy: Stokes, *Short Circuiting Policy*, chap. 3, “An Institutional History of Electricity Politics and Climate Inaction”

+ each student must post two questions for Padin-Dujon on Canvas

Th 4/25 Guest visit & discussion: ALEJANDRA PADIN-DUJON on carbon credits and allowances

WEEK 15 Energy Transition

Tu 4/30 Robinson Meyer on The Inflation Reduction Act:

- 31 Aug 22: “What the Inflation Reduction Act Means for the World”
- 07 Jul 23: “7 Lessons from the First Year of Biden’s Climate Law”
- 01 Oct 23: “The Climate Fight Will Be Won in the Appliance Aisle”

++ Final report due Monday 5/6 at noon ++



“Grand Ball Given by the Whales in honor of the discovery of oil wells in Pennsylvania,” *Vanity Fair*, April 20, 1861. Source: <https://energyhistory.yale.edu/grand-ball-given-by-the-whales-vanity-fair-april-20-1861>

REQUIRED SYLLABUS STATEMENTS

For updates and links, go to: <https://www.smu.edu/OIT/AcademicTech/Instructional-Guidelines/Syllabus/required-syllabus-statements>.

Title IX and Disability Accommodations

Disability Accommodations

Students who need academic accommodations for a disability must first register with Disability Accommodations & Success Strategies (DASS). Students can call 214-768-1470 or visit smu.edu/DASS to begin the process. Once they are registered and approved, students then submit a DASS Accommodation Letter through the electronic portal, DASS Link, and then communicate directly with each of their instructors to make appropriate arrangements. Please note that accommodations are not retroactive, but rather require advance notice in order to implement.

Sexual Harassment

All forms of sexual harassment, including sexual assault, dating violence, domestic violence and stalking, are violations of SMU's Title IX Sexual Harassment Policy and may also violate Texas law. Students who wish to file a complaint or to receive more information about the grievance process may contact Samantha Thomas, SMU's Title IX Coordinator, at accessequity@smu.edu or 214-768-3601. Please note that faculty and staff are mandatory reporters. If students notify faculty or staff of sexual harassment, they must report it to the Title IX Coordinator. For more information about sexual harassment, including resources available to assist students, please visit smu.edu/sexualharassment.

Pregnant and Parenting Students

Under Title IX, students who are pregnant or parenting may request academic adjustments by contacting the Office of Student Advocacy and Support by calling 214-768-4564. Students seeking assistance must schedule an appointment with their professors as early as possible, present a letter from the Office of the Dean of Students, and make appropriate arrangements. Please note that academic adjustments are not retroactive and, when feasible, require advance notice to implement.

Academic Policies

Religious Observance

Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the semester and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. [Click here](#) for a list of holidays.

Medical-Related Absences

To ensure academic continuity and avoid any course penalties, students should follow procedures described by their instructors in order to be provided with appropriate modifications to assignments, deadlines, and exams.

Excused Absences for University Extracurricular Activities

Students participating in an officially sanctioned, scheduled university extracurricular activity should be given the opportunity to make up class assignments or other graded assignments that were missed as a result of their participation. It is the responsibility of the student to make arrangements for make-up work with the instructor prior to any missed scheduled examinations or other missed assignments. (See current Catalog under heading of "Academic Records/Excused Absences.")

Final Exams

Final course examinations shall be given in all courses where appropriate, and some form of final assessment is essential. Final examinations and assessments must be administered as specified in the official examination schedule and cannot be administered or due during the last week of classes or during the Reading Period. Syllabi must clearly state the form of the final examination or assessment, and the due date and time must match the official SMU examination schedule. SMU policy states that all exceptions to the examination schedule may be made only upon written recommendation of the chair of the department sponsoring the course and with the concurrence of the dean of that school, who will allow exceptions only in accordance with guidelines from the Office of the Provost.

Academic Dishonesty

Students are expected to embrace and uphold the SMU Honor Code. Violations of the Honor Code will be acted upon in accordance with the policies and procedures outlined in the Mustang Student Handbook.

Student Support**Student Academic Success Programs**

Students needing assistance with writing assignments for SMU courses may schedule an appointment with the Writing Center through Canvas. Students who would like support for subject-specific tutoring or success strategies should contact SASP, Loyd All Sports Center, Suite 202; 214-768-3648; smu.edu/sasp. Tutor schedules are available at smu.edu/tutorschedule.

Caring Community Connections Program

CCC is a resource for anyone in the SMU community to refer students of concern to the Office of the Dean of Students. The online referral form can be found at smu.edu/deanofstudentsccc. After a referral form is submitted, students will be contacted to discuss the concern, strategize options, and be connected to appropriate resources. Anyone who is unclear about what steps to take if they have concerns about students should contact the Office of the Dean of Students at 214-768-4564.

Mental Health Resources: Counseling Services & Teletherapy

Throughout the academic year, students may encounter different stressors or go through life experiences which impact their mental health and academic performance. Students who are in distress or have concerns about their mental health can schedule a same-day or next-day appointment to speak with a counselor by calling Counseling Services. Counselors are available at any time, day or night for students in crisis at this number: 214-768-2277 (then select option 2) They will be connected with a counselor immediately. Students seeking ongoing counseling should call the same number (214-768-2277, then select option 1) during normal business hours to schedule an initial appointment. SMU Teletherapy provides another free option for on-demand counseling and video appointments with a medical professional.

Campus Carry Law

In accordance with Texas Senate Bill 11, also known as the 'campus carry' law, and following consultation with entire University community, SMU chooses to remain a weapons-free campus. Specifically, SMU prohibits possession of weapons (either openly or in a concealed manner) on campus. For more information, please see smu.edu/campuscarrylaw.