CSCE 3320 - Signals and Systems

Fall 2024 Syllabus, Section 101, CRN 15369

Instructor Information

Habib M. Ammari, Ph.D. (CSE, 2008), Ph.D. (CS, 1996)
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Office Hours:
Monday: 11:00 am–1:00 pm
Wednesday: 11:00 am–1:00 pm
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Times and Location

MWF 9:40am-10:35am in Academic Innovation Center 204

Course Description

Additional Course Information

Objective

This course, which focuses on methods and applications of signal and system analysis, is an essential element in an engineering program for undergraduate engineering students, such as computer engineers. It covers both discrete-time and continuous-time concepts in a unified way. The objective of this course is to provide the students with a basic understanding of the methods of analysis for continuous-time and discrete-time signals and systems, while showing the similarities and differences between them. More specifically, it introduces students to various topics in signals and systems, including but not limited to filtering, communications, sampling, discrete-time processing of continuous-time signals, and feedback. This course introduces the students to block diagram representations of interconnections of systems. It discusses several basic system properties, such as causality, linearity, and time-variance. It develops the convolution-sum representation for discrete-time linear, time-invariant (LTI) systems, and the convolution integral representation for continuous-time LTI systems. It also discusses causal LTI systems, which are characterized by linear constant-coefficient differential and difference equations, and singularity functions, such as steps, impulses, and doublets, which are used to describe and analyze continuous-time LTI systems. Moreover, this course presents a thorough development of the methods of Fourier analysis in continuous and discrete time and introduces the concept of frequency-domain filtering. In addition, it presents the sampling theorem and its implications, and provides the students with a discussion of the general concepts of representing a continuous-time signal in terms of its samples and the reconstruction of signals using interpolation. It presents various forms of communication systems and discusses continuous-time sinusoidal amplitude modulation along with its applications, including frequency-division multiplexing, single-sideband modulation, amplitude modulation of a pulse train, time-division multiplexing, pulse-amplitude modulation, intersymbol interference, and frequency modulation. Furthermore, it introduces Laplace and *z*-transform, which are useful to study linear feedback systems. Homework assignments will help the students understand the topics discussed in this course and apply the concepts to solve problems. Also, this course will provide the students with hands-on experience and implementation of concepts and algorithms covered in class through the design, analysis, and development of programs using a stepwise refinement approach.

Guidelines

Here are some guidelines on how to do very well in this course. First of all, you should work very hard and devote reasonable time to this course so you can meet all the deadlines. It is important that you attend all the lectures so you can benefit from the discussions in class. You need to start early

on your homework assignments and projects and do not wait until the last moment. Otherwise, it would be highly unlikely that you could finish them by their deadlines. Also, do not hesitate to ask questions related to this course during the lectures, and I will try my very best to answer them. If you have any difficulties, please come see me during office hours and I would be more than happy to assist you. If for some reason you cannot make it to office hours, please email or call me for an appointment and I will surely meet you and give you the assistance that you need. I strongly believe that you would be very successful if you take into consideration all these guidelines.

Deadlines

Each homework or programming assignment has a deadline that is stated on the first page of the assignment. The teamwork is optional and has a deadline that is also stated on the first page of the assignment. The bonuses associated with all the teamwork and in-class discussions will be added to your grades for the midterm. Your solutions for any teamwork assignment have to be submitted through Blackboard according to the timing specified on the assignment. All deadlines are firm.

Grading

Attendance: 10%

Homework Assignments and Discussions: 20%

Programming Projects: 20%

Midterm: 20%

Final: 30%

Teamwork: Bonuses (added to Midterm and Final)

Program Learning Outcomes

Within three to five years of obtaining a bachelor's degree in Computer Engineering at TAMIU, graduates should be able to:

- Utilize the knowledge and skills acquired to become an effective professional in computer engineering or related fields
- Promote the values of ethics, professionalism, and community service to advance society
- Exhibit continuous professional development and learning through licensure, certification, or graduate studies.

Student Learning Outcomes

Upon successful completion of the course, the student will be able to:

- Demonstrate a basic understanding of continues time and discrete time signals and systems.
- Represent linear time-invariant system (LTI) in time domain.
- Express signals and LTI systems using Fourier methods.
- Apply the signal and system methods to modulation in communication.
- Design various types of filters for signals.

Important Dates

Visit the Academic Calendar (tamiu.edu) (https://www.tamiu.edu/academiccalendar/) page to view the term's important dates.

Textbooks

Group	Title	Author	ISBN
Required	Signals & systems, Second Edition, Prentice Hall, 1997.	A. V. Oppenheim, A. S. Willsky, with S. H. Nawab	0-13-814757-4
Optional	Signals and systems using MATLAB®, Academic Press, 4th Edition, 2024.	A. Akan and L. F. Chaparro	
Optional	Signal design for modern radar systems, Artech House, 2022.	M. Alaee-Kerahroodi, M. Soltanalian, P. Babu, and M. R. B. Shankar	

Optional	Signals and systems: A MATLAB integrated approach, CRC Press, 1st Edition, 2017.	O. Alkin
Optional	Signals and systems with MATLAB® and Simulink®, Springer, 2023.	F. Asadi
Optional	Fundamentals of signals and systems, Da Vinci Engineering Press, 1st Edition, 2005.	B. Boulet and L. Chartrand
Optional	Signals and systems using MATLAB, Academic Press, 3rd Edition, 2018.	L. F. Chaparro and A. Akan
Optional	Signals and systems: A fresh look, CreateSpace Independent Publishing Platform, 2011.	C.-T. Chen
Optional	Signals and systems, Oxford University Press; 3rd Edition, 2004.	C.-T. Chen
Optional	Continuous signals and systems with MATLAB®, CRC Press; 3rd Edition, 2020.	T. S. ElAli
Optional	Discrete Signals and Systems with MATLAB®, CRC Press, 3rd Edition, 2020.	T. S. ElAli
Optional	Digital signal processing: Illustration using Python, Springer; 1st Edition, 2024.	S. Esakkirajan, T. Veerakumar, and B. N Subudhi
Optional	Digital signal processing in communications systems, Springer, 1994.	M. Frerking
Optional	Signals and linear systems, Wiley, 3rd Edition, 1986.	R. A. Gabel and R. A. Roberts
Optional	Principles of signals and systems, Springer, 1st Edition 2023.	O. Gazi
Optional	Probabilistic systems and random signals, Pearson, 1st Edition, 2005.	A. H Haddad
Optional	Signals and systems, Wiley, 2nd Edition, 2002.	S. Haykin and B. V. Veen
Optional	Signals, systems, and transforms, Addison-Wesley Publishing Company, 1st Edition, 1991.	L. B. Jackson
Optional	Fundamentals of signals and systems using the Web and MATLAB, Pearson, 3rd Edition, 2006.	E. Kamen
Optional	Transforms in signals and systems, Addison-Wesley, 1992.	P. Kraniauskas
Optional	Real-time digital signal processing: Fundamentals, implementations and applications, Wiley, 3rd Edition, 2013.	S. M. Ku, B. H. Lee, and W. Tian
Optional	Analog signals and systems, Pearson, 1st Edition, 2008.	E. Kudeki and D. Munson
Optional	Signals and systems, PHI, 3rd Edition, 2013.	A. Kumar
Optional	Signal processing and linear systems, Oxford University Press, 2nd Edition, 2021.	B. P. Lathi and R. Green
Optional	Linear systems and signals, Oxford University Press; 3rd Edition, 2017.	B. P. Lathi and R. Green

Optional	Continuous and discrete time signals and systems, Cambridge University Press, 1st Edition, 2007.	M. Mandal and A. Asif
Optional	Essentials of signals and systems, Wiley, 1st Edition, 2023.	E. R. Martins
Optional	Signals and systems, Oxford University Press, 1st Edition, 2016.	S. K. Mitra
Optional	Signals and systems, McGraw Hill, 1st Edition, 2013.	M. Nahvi
Optional	Signal and system fundamentals in MATLAB and SIMULINK, BookSurge Publishing, 2008.	M. Nuruzzaman
Optional	Signals, systems and inference, Pearson, 1st Edition, 2015.	A. Oppenheim and G. Verghese
Optional	Signals, systems, & transforms, Pearson, 5th Edition, 2013.	C. Phillips, J. Parr, and E. Riskin
Optional	Signals and systems, Birkhäuser, 1st Edition, 2018.	K. D. Rao
Optional	Signals and systems, McGraw Hill Education, 2013.	P. R. Rao and S. Prakriya
Optional	Signals and systems: Analysis using transform methods and MATLAB, McGraw Hill, 3rd Edition, 2017.	M. J. Roberts
Optional	Circuits, systems and signal processing: A tutorials approach, Springer, 1st Edition, 2018.	S. C. D. Roy
Optional	Signals and systems: A primer with MATLAB, CRC Press; 2nd Edition, 2024.	N. O. Sadiku, W. H. Ali, and S. M. Musa
Optional	Circuits, signals, and systems for bioengineers: A MATLAB-based introduction, Academic Press, 3rd Edition, 2017.	J. Semmlow
Optional	Circuits, signals and systems, MIT Press, 1985.	W. M. Siebert
Optional	The scientist & engineer's guide to digital signal processing, California Technical Pub, First Edition, 1997.	S. W. Smith
Optional	Hands-on signals and systems theory, Springer, 2024.	K. M. Snopek
Optional	Continuous and discrete signals and systems, Pearson, 2nd Edition, 1998.	S. S. Soliman and M. D. Srinath
Optional	Signals and systems: A practical approach, Springer, 2nd Edition, 2022.	D. Sundararajan
Optional	Signals and systems: Theory and applications, Michigan Publishing Services, 2018.	F. Ulaby and A. E. Yagle
Optional	Signals, systems, and signal processing, Cambridge University Press, 1st Edition, 2024.	P. P. Vaidyanathan
Optional	Engineering signals and systems in continuous and discrete time, NTS, 2nd Edition, 2016.	A. E. Yagle

Optional	Modern digital radio communication signals and systems, Springer, 2nd Edition, 2021.	S.-M. M. Yang
Optional	Signals and systems: Continuous and discrete, Pearson; 4th Edition, 1998.	R. Ziemer, W. Tranter, and D. Fannin

Other Course Materials

Reading List

K. Devlin, Why universities require computer science students to take math (http://delivery.acm.org/10.1145/910000/903917/p36-devlin.pdf?key1=903917&key2=2511120221&coll=GUIDE&dl=GUIDE&CFID=1219732&CFTOKEN=33287846), *Communications of the ACM*, vol. 46, no. 9, pp. 36-39, Sep. 2003.

K. B. Bruce, R. L. Scot Drysdale, C. Kelemen, and A. B. Tucker, Why math? (http://delivery.acm.org/10.1145/910000/903918/p40-bruce.pdf?key1=903918&key2=3071120221&coll=GUIDE&dl=GUIDE&CFID=1220246&CFTOKEN=15077838), *Communications of the ACM*, vol. 46, no. 9, pp. 40-44, Sep. 2003.

P. B. Henderson, Mathematical reasoning in software engineering education (http://delivery.acm.org/10.1145/910000/903919/p45-henderson.pdf?key1=903919&key2=1881120221&coll=GUIDE&dl=GUIDE&CFID=1220392&CFTOKEN=67320972), *Communications of the ACM*, vol. 46, no. 9, pp. 45-50, Sep. 2003.
V. L. Almstrum, What is the attraction to computing? (http://delivery.acm.org/10.1145/910000/903920/p51-almstrum.pdf?key1=903920&key2=6102120221&coll=GUIDE&dl=GUIDE&CFID=1220473&CFTOKEN=40717181), *Communications of the ACM*, vol. 46, no. 9, pp. 51-55, Sep. 2003.

T. A. Easton, Beyond the algorithmization of the sciences (http://delivery.acm.org/10.1145/1130000/1125967/p31-easton.pdf?key1=1125967&key2=5096120221&coll=GUIDE&dl=GUIDE&CFID=1224294&CFTOKEN=17603077), *Communications of the ACM*, vol. 49, no. 5, pp. 31-33, May 2006.

D. J. Armstrong, The quarks of object-oriented development (http://delivery.acm.org/10.1145/1120000/1113040/p123-armstrong.pdf?key1=1113040&key2=5804120221&coll=GUIDE&dl=GUIDE&CFID=1222033&CFTOKEN=76476845), *Communications of the ACM*, vol. 49, no. 2, pp. 123-128, Feb. 2006.

B. Stroustrup, Why C++ is not just an object-oriented programming language (http://delivery.acm.org/10.1145/270000/260207/p1-stroustrup.pdf?key1=260207&key2=6129120221&coll=GUIDE&dl=GUIDE&CFID=1225535&CFTOKEN=27285601), *Addendum to the Proceedings of the 10th Annual Conference on Object-Oriented Programming Systems, Languages, and Applications (OOPSLA)*, pp. 1-13, Oct. 1995.

Online Resources

B. Eckel, Thinking in C++: Introduction to Standard C++ (http://www.mindview.net/Books/TICPP/ThinkingInCPP2e.html#DownloadingTheBook), vol. 1, Second Edition, Prentice Hall, 2000.

B. Eckel, Thinking in C++: Practical Programming (http://www.mindview.net/Books/TICPP/ThinkingInCPP2e.html#DownloadingTheBook), vol. 2, Second Edition, Prentice Hall, 2003.

S. Seiden, Theoretical computer science cheat sheet (http://www.members.tripod.com/colla/mental/skills/programming/CStheoryCheatSheet.pdf), *ACM SIGACT News*, vol. 27, no. 4, pp. 52-61, Dec. 1996.

Grading Criteria

GRADE	PERCENTAGE
A	90-100
B	80-89.9
C	70-79.9
D	60-69.9
F	Below 60

Schedule of Topics and Assignments

Week of	Agenda/Topic	Reading(s)	Due
8/26	Chapter 1: Signals and Systems Introduction, continuous-time and discrete-time signals (examples and mathematical representation, signal energy and power), transformations of the independent variable (examples of transformations, periodic signals, even and odd signals) , exponential and sinusoidal signals (continuous-time complex exponential and sinusoidal signals, discrete-time complex exponential and sinusoidal signals, periodicity properties of discrete-time complex exponentials).	Chapter 1: Signals and Systems	
9/2	Chapter 1: Signals and Systems (cont'd) The unit impulse and unit step functions (discrete-time unit impulse and unit step sequences, continuous-time unit step and unit impulse functions), continuous-time and discrete-time systems (simple examples of systems, interconnections of systems), basic system properties (systems with and without memory, invertibility and inverse systems, causality, stability, time invariance, linearity).	Chapter 1: Signals and Systems	
9/9	Chapter 2: Linear Time-Invariant Systems Introduction, discrete-time linear time-invariant (LTI) systems (representation of discrete-time signals in terms of impulses, discrete-time unit impulses response, convolution-sum representation of LTI systems), continuous-time LTI systems (representation of continuous-time signals in terms of impulses, continuous-time unit impulses response, convolution integral representation of LTI systems).	Chapter 2: Linear Time-Invariant Systems	
9/16	Chapter 2: Linear Time-Invariant Systems (cont'd) Properties of linear time-invariant systems (commutativity, distributivity, associativity, LTI systems with and without memory, invertibility, causality, stability, unit step response of LTI systems), causal LTI systems described by differential and difference equations (linear constant-coefficient differential equations, linear constant-coefficient difference equations, block diagram representations of first-order systems described by differential and difference equations), singularity functions (unit impulse as idealized short pulse, defining unit impulse through convolution, unit doublets, other singularity functions).	Chapter 2: Linear Time-Invariant Systems	

9/23	Chapter 3: Fourier Series Representation of Periodic Signals Introduction, response of LTI systems to complex exponentials, Fourier series representation of continuous-time periodic signals (linear combinations of harmonically related complex exponentials, determination of the Fourier series representation of a continuous-time periodic signal), convergence of the Fourier series, properties of continuous-time Fourier series (linearity, time shifting, time reversal, time scaling, multiplication, conjugation and conjugate symmetry, Parseval's relation for continuous-time periodic signals).	Chapter 3: Fourier Series Representation of Periodic Signals
9/30	Chapter 3: Fourier Series Representation of Periodic Signals (cont'd) Fourier series representation of discrete-time periodic signals (linear combinations of harmonically related complex exponentials, determination of the Fourier series representation of a periodic signal), properties of discrete-time Fourier series (multiplication, first difference, Parseval's relation for discrete-time periodic signals, examples), Fourier series and LTI systems, filtering (frequency-shaping filters, frequency-selective filters), examples of continuous-time filters described by differential equations (simple RC lowpass filter, simple RC highpass filter), examples of discrete-time filters described by difference equations (first-order recursive discrete-time filters, nonrecursive discrete-time filters).	Chapter 3: Fourier Series Representation of Periodic Signals
10/7	Chapter 4: The Continuous-Time Fourier Transform Introduction, representation of aperiodic signals (development of the Fourier transform representation of an aperiodic signal, convergence of Fourier transforms, examples of continuous-time Fourier transforms), Fourier transform for periodic signals. Review Session for Midterm (10/10) - Midterm (10/11)	Chapter 4: The Continuous-Time Fourier Transform
10/14	Chapter 4: The Continuous-Time Fourier Transform (cont'd) Properties of the continuous-time Fourier transform (linearity, time shifting, conjugation and conjugate symmetry, differentiation and integration, time and frequency scaling, duality, Parseval's relation), convolution property (examples), multiplication property (frequency-selective filtering with variable center frequency), tables of Fourier properties and of basic Fourier transform pairs, systems characterized by linear constant-coefficient differential equations.	Chapter 4: The Continuous-Time Fourier Transform

10/21	Chapter 5: The Discrete-Time Fourier Transform Introduction, representation of aperiodic signals (development of the discrete-time Fourier transform, examples of discrete-time Fourier transforms, convergence issues associated with the discrete-time Fourier transform), Fourier transform for periodic signals, properties of the discrete-time Fourier transform (periodicity of the discrete-time Fourier transform, linearity of the Fourier transform, time shifting and frequency shifting, conjugation and conjugate symmetry, differencing and accumulation, time reversal, time expansion, differentiation in frequency, Parseval's relation).	Chapter 5: The Discrete-Time Fourier Transform
10/28	Chapter 5: The Discrete-Time Fourier Transform (cont'd) Convolution property (examples), multiplication property, tables of Fourier transform properties and basic Fourier transform pairs, duality (duality in the discrete-time Fourier series, duality between the discrete-time Fourier transform and the continuous-time Fourier series, systems characterized by linear constant-coefficient difference equations.	Chapter 5: The Discrete-Time Fourier Transform
11/4	Chapter 6: Time and Frequency Characterization of Signals and Systems Introduction, magnitude-phase representation of the Fourier transform, magnitude-phase representation of the frequency response of LTI systems (linear and nonlinear phase, group delay, log-magnitude and bode plots), time-domain properties of ideal frequency-selective filters, time-domain and frequency-domain aspects of nonideal filters.	Chapter 6: Time and Frequency Characterization of Signals and Systems
11/11	Chapter 6: Time and Frequency Characterization of Signals and Systems (cont'd) First-order and second-order continuous-time systems (first-order continuous-time systems, second-order continuous-time systems, bode plots for rational frequency responses), first-order and second-order discrete-time systems (first-order discrete-time systems, second-order discrete-time systems), examples of time- and frequency-domain analysis of systems (analysis of an automobile suspension system, examples of discrete-time nonrecursive filters).	Chapter 6: Time and Frequency Characterization of Signals and Systems

11/18	Chapter 7: Sampling Introduction, representation of a continuous-time signal by its samples (Sampling theorem, impulse-train sampling, sampling with a zero-order hold, reconstruction of a signal from its samples using interpolation, effect of undersampling (aliasing), discrete-time processing of continuous-time signals (digital differentiator, half-sample delay), sampling of discrete-time signals (impulse-train sampling, discrete-time decimation and interpolation).	Chapter 7: Sampling
11/25	Chapter 8: Communication Systems Introduction, complex exponential and sinusoidal amplitude modulation (amplitude modulation with a complex exponential carrier, amplitude modulation with a sinusoidal carrier), demodulation of sinusoidal AM (synchronous demodulation, asynchronous demodulation), frequency-division multiplexing, single-sideband sinusoidal amplitude modulation. (Reading Day 11/27, Thanksgiving 11/28)	Chapter 8: Communication Systems
12/2	Chapter 8: Communication Systems (cont'd) Amplitude modulation with a pulse-train carrier (modulation of a pulse-train carrier, time-division multiplexing), pulse-amplitude modulation (pulse-amplitude modulated signals, intersymbol interference in PAM systems, digital pulse-amplitude and pulse-code modulation), sinusoidal frequency modulation (narrowband frequency modulation, wideband frequency modulation, periodic square-wave modulating signal), discrete-time modulation (discrete-time sinusoidal amplitude modulation, discrete-time transmodulation). Review Session for Final (12/3) – Last Class Day (12/3) One-Day Undergraduate Teaching Experience (12/3) • Chapter 9: The Laplace Transform • Chapter 10: The Z-Transform • Chapter 11: Linear Feedback Systems	Chapter 8: Communication Systems

University/College Policies

Please see the University Policies below.

COVID-19 Related Policies

If you have tested positive for COVID-19, please refer to the Student Handbook, Appendix A (Attendance Rule) for instructions.

Required Class Attendance

Students are expected to attend every class in person (or virtually, if the class is online) and to complete all assignments. If you cannot attend class, it is your responsibility to communicate absences with your professors. The faculty member will decide if your excuse is valid and thus may provide lecture materials of the class. According to University policy, acceptable reasons for an absence, which cannot affect a student's grade, include:

- Participation in an authorized University activity.
- Death or major illness in a student's immediate family.
- Illness of a dependent family member.
- Participation in legal proceedings or administrative procedures that require a student's presence.
- Religious holy day.
- Illness that is too severe or contagious for the student to attend class.
- Required participation in military duties.
- Mandatory admission interviews for professional or graduate school which cannot be rescheduled.

Students are responsible for providing satisfactory evidence to faculty members within seven calendar days of their absence and return to class. They must substantiate the reason for the absence. If the absence is excused, faculty members must either provide students with the opportunity to make up the exam or other work missed, or provide a satisfactory alternative to complete the exam or other work missed within 30 calendar days from the date of absence. Students who miss class due to a University-sponsored activity are responsible for identifying their absences to their instructors with as much advance notice as possible.

Classroom Behavior (applies to online or Face-to-Face Classes)

TAMIU encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The University will always tolerate different, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action (please refer to Student Handbook Article 4).

TAMIU Honor Code: Plagiarism and Cheating

As a TAMIU student, you are bound by the TAMIU Honor Code to conduct yourself ethically in all your activities as a TAMIU student and to report violations of the Honor Code. Please read carefully the Student Handbook Article 7 and Article 10 available at https://www.tamiu.edu/scce/studenthandbook.shtml (https://www.tamiu.edu/scce/studenthandbook.shtml/).

We are committed to strict enforcement of the Honor Code. Violations of the Honor Code tend to involve claiming work that is not one's own, most commonly plagiarism in written assignments and any form of cheating on exams and other types of assignments.

Plagiarism is the presentation of someone else's work as your own. It occurs when you:

1. Borrow someone else's facts, ideas, or opinions and put them entirely in your own words. You must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism.
2. Borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism.
3. Present someone else's paper or exam (stolen, borrowed, or bought) as your own. You have committed a clearly intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2020, seventh edition of the Manual of The American Psychological Association (APA):

"Plagiarism is the act of presenting the words, idea, or images of another as your own; it denies authors or creators of content the credit they are due. Whether deliberate or unintentional, plagiarism violates ethical standards in scholarship" (p. 254). This same principle applies to the illicit use of AI.

Plagiarism: Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. Each time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text. The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications (p. 11). For guidance on proper documentation, consult the Academic Success Center or a recommended guide to documentation and research such as the Manual of the APA or the MLA Handbook for Writers of Research Papers. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

TAMIU has penalties for plagiarism and cheating.

- **Penalties for Plagiarism**: Should a faculty member discover that a student has committed plagiarism, the student should receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, may elect to

give freshmen and sophomore students a "zero" for the assignment and to allow them to revise the assignment up to a grade of "F" (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade; the instructor must still report the offense to the Honor Council. This option should not be available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse. For repeat offenders in undergraduate courses or for an offender in any graduate course, the penalty for plagiarism is likely to include suspension or expulsion from the university.

  - *Caution*: Be very careful what you upload to Turnitin or send to your professor for evaluation. Whatever you upload for evaluation will be considered your final, approved draft. If it is plagiarized, you will be held responsible. The excuse that "it was only a draft" will not be accepted.
  - *Caution*: Also, do not share your electronic files with others. If you do, you are responsible for the possible consequences. If another student takes your file of a paper and changes the name to his or her name and submits it and you also submit the paper, we will hold both of you responsible for plagiarism. It is impossible for us to know with certainty who wrote the paper and who stole it. And, of course, we cannot know if there was collusion between you and the other student in the matter.

- **Penalties for Cheating**: Should a faculty member discover a student cheating on an exam or quiz or other class project, the student should receive a "zero" for the assignment and not be allowed to make the assignment up. The incident should be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an "F" in the course, and the matter should be referred to the Honor Council. Additional penalties, including suspension or expulsion from the university may be imposed. Under no circumstances should a student who deserves an "F" in the course be allowed to withdraw from the course with a "W."
  - *Caution*: Chat groups that start off as "study groups" can easily devolve into "cheating groups." Be very careful not to join or remain any chat group if it begins to discuss specific information about exams or assignments that are meant to require individual work. If you are a member of such a group and it begins to cheat, you will be held responsible along with all the other members of the group. The TAMIU Honor Code requires that you report any such instances of cheating.
- **Student Right of Appeal**: Faculty will notify students immediately via the student's TAMIU e- mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member's charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 10 business days of the faculty member's e-mail message to the student and/or the Office of Student Conduct and Community Engagement. The Student Handbook provides more details.

Use of Work in Two or More Courses

You may not submit work completed in one course for a grade in a second course unless you receive explicit permission to do so by the instructor of the second course. In general, you should get credit for a work product only once.

AI Policies

Your instructor will provide you with their personal policy on the use of AI in the classroom setting and associated coursework.

TAMIU E-Mail and SafeZone

Personal Announcements sent to students through TAMIU E-mail (tamiu.edu or dusty email) are the official means of communicating course and university business with students and faculty –not the U.S. Mail and no other e-mail addresses. Students and faculty must check their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action.

Students, faculty, and staff are encouraged to download the SafeZone app, which is a free mobile app for all University faculty, staff, and students. SafeZone allows you to: report safety concerns (24/7), get connected with mental health professionals, activate location sharing with authorities, and anonymously report incidents. Go to https://www.tamiu.edu/adminis/police/safezone/index.shtml for more information.

Copyright Restrictions

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to $100,000; criminal penalties include a fine up to $250,000 and imprisonment. Copyright laws do not allow students and professors to make photocopies of copyrighted materials, but you may copy a limited portion of a work, such as article from a journal or a chapter from a book for your own personal academic use or, in the case of a professor, for personal, limited classroom use. In general, the extent of your copying should not suggest that the purpose or the effect of your copying is to avoid paying for the materials. And, of course, you may not sell these copies for a profit. Thus, students who copy textbooks to avoid buying them or professors who provide photocopies of textbooks to enable students to save money are violating the law.

Students with Disabilities

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Office of Student Counseling and Disability Services located in Student Center 126. This office will contact the faculty member to recommend specific, reasonable accommodations. Faculty are prohibited from

making accommodations based solely on communications from students. They may make accommodations only when provided documentation by the Student Counseling and Disability Services office.

Student Attendance and Leave of Absence (LOA) Policy

As part of our efforts to assist and encourage all students towards graduation, TAMIU provides
LOA's for students, including pregnant/parenting students, in accordance with the Attendance Rule (Section 3.07) and the Student LOA Rule (Section 3.08), which includes the "Leave of Absence Request" form. Both rules can be found in the TAMIU Student Handbook (URL: http://www.tamiu.edu/studentaffairs/StudentHandbook1.shtml (http://www.tamiu.edu/studentaffairs/StudentHandbook1.shtml/)).

Pregnant and Parenting Students

Under Title IX of the Education Amendments of 1972, harassment based on sex, including harassment because of pregnancy or related conditions, is prohibited. A pregnant/parenting student must be granted an absence for as long as the student's physician deems the absence medically necessary. It is a violation of Title IX to ask for documentation relative to the pregnant/parenting student's status beyond what would be required for other medical conditions. If a student would like to file a complaint for discrimination due to his or her pregnant/parenting status, please contact the TAMIU Title IX Coordinator (Lorissa M. Cortez, 5201 University Boulevard, KLM 159B, Laredo, TX 78041,TitleIX@tamiu.edu, 956.326.2857) and/or the Office of Civil Rights (Dallas Office, U.S. Department of Education, 1999 Bryan Street, Suite 1620, Dallas, TX 75201-6810, 214.661.9600). You can also report it on TAMIU's anonymous electronic reporting site: https://www.tamiu.edu/reportit (https://www.tamiu.edu/reportit/).

TAMIU advises a pregnant/parenting student to notify their professor once the student is aware that accommodations for such will be necessary. It is recommended that the student and professor develop a reasonable plan for the student's completion of missed coursework or assignments. The Office of Equal Opportunity and Diversity (Lorissa M. Cortez, lorissam.cortez@tamiu.edu) can assist the student and professor in working out the reasonable accommodations. For other questions or concerns regarding Title IX compliance related to pregnant/parenting students at the University, contact the Title IX Coordinator. In the event that a student will need a leave of absence for a substantial period of time, TAMIU urges the student to consider a Leave of Absence (LOA) as outlined in the TAMIU Student Handbook. As part of our efforts to assist and encourage all students towards graduation, TAMIU provides LOA's for students, including pregnant/parenting students, in accordance with the Attendance Rule and the Student LOA Rule. Both rules can be found in the TAMIU Student Handbook (https://www.tamiu.edu/scce/studenthandbook.shtml (https://www.tamiu.edu/scce/studenthandbook.shtml/)).

Anti-Discrimination/Title IX

TAMIU does not discriminate or permit harassment against any individual on the basis of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity in admissions, educational programs, or employment. If you would like to file a complaint relative to Title IX or any civil rights violation, please contact the TAMIU Director of Equal Opportunity and Diversity/Title IX Coordinator, Lorissa M. Cortez, 5201 University Boulevard, Killam Library 159B, Laredo, TX 78041,TitleIX@tamiu.edu, 956.326.2857, via the anonymous electronic reporting website, ReportIt, at https://www.tamiu.edu/reportit (https://www.tamiu.edu/reportit/), and/or the Office of Civil Rights (Dallas Office), U.S. Department of Education, 1999 Bryan Street, Suite 1620, Dallas, TX 75201-6810, 214.661.9600.

Incompletes

Students who are unable to complete a course should withdraw from the course before the final date for withdrawal and receive a "W." To qualify for an "incomplete" and thus have the opportunity to complete the course at a later date, a student must meet the following criteria:

1. The student must have completed 90% of the course work assigned before the final date for withdrawing from a course with a "W", and the student must be passing the course;
2. The student cannot complete the course because an accident, an illness, or a traumatic personal or family event occurred after the final date for withdrawal from a course;
3. The student must sign an "Incomplete Grade Contract" and secure signatures of approval from the professor and the college dean.
4. The student must agree to complete the missing course work before the end of the next long semester; failure to meet this deadline will cause the "I" to automatically be converted to an "F"; extensions to this deadline may be granted by the dean of the college. This is the general policy regarding the circumstances under which an "incomplete" may be granted, but under exceptional circumstances, a student may receive an incomplete who does not meet all of the criteria above if the faculty member, department chair, and dean recommend it.

WIN Contracts

The Department of Biology and Chemistry does not permit WIN contracts. For other departments within the college, WIN Contracts are offered only under exceptional circumstances and are limited to graduating seniors. Only courses offered by full-time TAMIU faculty or TAMIU instructors are eligible to be contracted for the WIN requirement. However, a WIN contract for a course taught by an adjunct may be approved, with special permission from the department chair and dean. Students must seek approval before beginning any work for the WIN Contract. No student will contract more than one course per semester. Summer WIN Contracts must continue through both summer sessions.

Student Responsibility for Dropping a Course

It is the responsibility of the student to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course without getting the approval of their department chair and dean.

Independent Study Course

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

Grade Changes & Appeals

Faculty are authorized to change final grades only when they have committed a computational error or an error in recording a grade, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the Student Handbook and in the Faculty Handbook.

Final Examination

All courses in all colleges must include a comprehensive exam or performance and be given on the date and time specified by the Academic Calendar and the Final Exam schedule published by the Registrar's Office. In the College of Arts & Sciences all final exams must contain a written component. The written component should comprise at least 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.

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. The Telus app is available to download directly from TELUS (tamiu.edu) (https://www.tamiu.edu/counseling/telus/) or from the Apple App Store and Google Play.