



Terry College of Business  
Department of Insurance, Legal Studies, &  
Real Estate

UNIVERSITY OF GEORGIA  
Department of Insurance, Legal Studies, & Real Estate

Terry College of Business  
BUSN 4000  
Spring 2022

# **BUSN 4000: Predictive Modeling and Optimization Spring Semester 2022**

## **Syllabus**

**Instructor:** Dr. Daniel J. Carlyle  
**Email:** [djcarlyle@uga.edu](mailto:djcarlyle@uga.edu)  
**Office Hours:** See eLC homepage  
**Course Website:** <https://uga.view.usg.edu/>

Class Meeting Information			
Section Number	Meeting Time	Building	Room No.
20743	MWF 11:30AM-12:20PM	Amos Hall	B010
20705	MWF 01:50PM-02:40PM	Amos Hall	B010
21295	MWF 03:00PM-03:50PM	Amos Hall	B010

***TO CONTACT THE INSTRUCTOR, USE THE UGA WEBMAIL ADDRESS ABOVE.  
EMAIL SENT THROUGH ELC OR [WEBASSIGN](#) WILL NOT ACHIEVE A RESPONSE  
FROM THE INSTRUCTOR.***

### **Course Format**

**Face-to-Face (Traditional).** This class will use the traditional face-to-face instructional method. Under this methodology, course content delivery and learning are conducted synchronously in a physical learning environment (classroom) utilizing appropriate safety measures. This instructional method allows for a rich interactive learning environment which encourages regular interaction between students and their peers and students and the instructor. **There is NO remote, Zoom-based component to this class.** Regular attendance is expected.

## Course Description

Focuses on calculus, statistical inference, predictive modeling, and optimization. Special attention will be given to the foundations of these topics and also to the modeling and application of these tools within all the functional areas of business.

**Prerequisite: MSIT/BUSN 3000.**

## Learning Outcomes

Upon successful completion of this course, students will be able to:

- 1) Recognize the principles that underlie causal inference.
- 2) Employ statistical methods to predict organizational and market outcomes.
- 3) Apply the concept of the derivative to determine optimal outcomes.

## Course Materials

**Textbook (Required):** *Applied Calculus & Regression Analysis: University of Georgia Custom Edition* by Tan/Dielman. (South-Western Cengage Learning, ISBN 9781337037853). Access to the e-book version of the text is provided through WebAssign (details below), which is the option selected by most students (i.e., you do not need to purchase the physical textbook). Whereas the physical book is currently out of print, you can still purchase used copies online (at a low price).

**Enhanced WebAssign (Required):** Homework for the course will be completed via WebAssign which will require purchasing an access code. **Follow the instructions posted on eLC to setup your WebAssign account and sync it to the eLC gradebook.** WebAssign accounts are course/textbook specific, so you will still need to purchase an access code, even if you've used WebAssign before in another course. **IMPORTANT: There is no Class Key for BUSN 4000. Do NOT email the instructor asking for one. Instead, read and follow the instructions on eLC.**

**Course Website (eLC):** eLC is an integral part of this class. Students are responsible for all announcements and assignments posted on eLC. This includes exam dates or homework deadline changes, etc. Therefore, the standing class expectation for the entire semester is that students will check the eLC announcements on a daily basis. Furthermore, students are expected to carefully READ and follow the instructions of any and all announcements in a timely manner. Students failing to meet these expectations will not have met the standards of this course and therefore should not expect to succeed in this class. Not having access to eLC is NOT an excuse for falling behind in the course. To access this class's eLC account, go to <https://uga.view.usg.edu/>. Enter your UGA MyID and password. Select "BUSN 4000".

**Calculator (Required):** A non-programmable, non-graphing, non-cellphone calculator with squaring, square root, and exponent capabilities is required. The calculator must not perform symbolic operations in calculus and should not be able to communicate externally (infrared, wi-fi, Bluetooth, etc). The use of any calculator in violation of this policy on tests is prohibited and considered a violation of the academic honesty policy. **The use of an unauthorized calculator on any test will result in the forfeiture of all points on that test.** Note that a basic scientific or financial calculators, such as a Casio FX-260 or Texas Instruments TI-30Xa, will be fine.

**Computer:** You will need access to a computer (either PC or Mac) equipped with Microsoft Excel in order to complete the homework for the course. You will also need installation permission on the computer, in order to install the BUSNReg add-in necessary to complete some of the later homework.

## Grading Policy

Each student's final course grade will be determined based on their performance using the following grading criteria. The baseline grading scale will be as follows:

### Course Grade Assignment

Letter Grade	Percentile Grade	Letter Grade	Percentile Grade
A	93-100%	C+	77-79.9%
A-	90-92.9%	C	73-76.9%
B+	87-89.9%	C-	70-72.9%
B	83-86.9%	D	60-69.9%
B-	80-82.9%	F	Below 60%

**IMPORTANT: Grades are awarded strictly by these numbers. We DO NOT ROUND UP!!**

### Course Grade Breakdown

Class Component	Grade Scheme I	Grade Scheme II
Be a Responsible Adult Learner (RAL)	5%	5%
Regular Homeworks (WebAssign)	20%	20%
Highest Midterm Exam Score	20%	20%
Lowest Midterm Exam Score	20%	15%
Final Exam (Cumulative & Mandatory)	35%	40%
<b>Extra Credit:</b>		
About This Course HW0 (due Wed 1/19)	2%	2%
Scoring 80% or higher on <b>ALL</b> 11 Homeworks	1%	1%

Your final course grade will be determined based on the grade scheme through which you score highest. Additionally, any student scoring 80%-or-higher on **all eleven** regular homework assignments will be awarded an extra point on their overall course grade. Note that the 11 homeworks mentioned in this policy exclude the About This Course HW due in the first full week of the semester. It is strongly recommended that you complete each homework **at least 48 hours** prior to the due date where possible, since technical (or medical) problems (or lapses of memory) can – and often do – happen.

### Be a Responsible Adult Learner (RAL)

The old theory of education is sometimes referred as the "banking model of education". In this view, students are passive, empty vessels and the instructor fills the students up with knowledge like someone depositing money into a bank account. Notice that in this paradigm, the students are passive and being acted upon - more like objects than people and only the instructor is active.

Modern, more accurate theories of education revolve around a simple adage that research has shown to be true. Namely: "*The person doing the work is the person doing the learning.*" In other words, only those who are actively engaged with the material are learning. If the instructor is actively filling up the passive

students with knowledge, then only the instructor is working = only the instructor is learning. Without focused and thoughtful engagement with the material, passive students will never fully master the subject matter. This class is designed around this simple, yet powerful, educational principle: **"The person doing the work is the person doing the learning."**

Following this principle, the roles of both student and instructor can be clearly delineated. Students are expected to be active, independent, engaged learners who take responsibility for their own learning. The instructor provides support and guidance in order for students to learn the necessary skills to achieve the desired outcomes. The instructor's main role is as a facilitator – there to offer support and advice when needed, and to provide scaffolding and teaching of skills when necessary. Certainly, it is the instructor's charge to clarify ideas, demonstrate skills, provide additional examples, and to explain difficult concepts, but the primary focus is on the active engagement of each individual student with the material. Perhaps somewhat counterintuitively, the instructor often "teaches" by *asking the students questions*, carefully listening to their responses, refining and shaping students' ideas, and finally, validating understanding.

Therefore, being a **responsible adult learner (RAL)** is one of the expectations for all students enrolled in this course. **A RAL is a person who takes full responsibility for the learner's part of the learning process.** Generally speaking, RALs are self-motivated, well-organized, manage time wisely, show initiative, readily discuss the course material in a knowledgeable manner, and ask informed questions. Some more specific character traits of RALs are:

- RALs familiarize themselves with the class policies and procedures outlined in the syllabus and other course documents at the beginning of the semester and abide by these standards throughout the entire semester.
- RALs stay current with class-wide announcements and events by checking their student email and class message boards (i.e., our eLC announcements) on a daily basis.
- RALs carefully read/listen to directives and follow instructions in a timely manner.
- RALs complete reading/video assignments *before* the class session during which these topics will be discussed and are therefore able to participate in the discussion and ask smart, informed questions during class.
- RALs complete all reading/video assignments on a particular topic BEFORE contacting the instructor or TA with questions.
- RALs attend and participate in class regularly.
- When absent from class, RALs take the initiative and contact their classmate(s), inquire about what they missed, read and study the material that was discussed that day, and return to class prepared to discuss that material and move forward.
- RALs come to class prepared with all of the necessary class materials.
- RALs arrive early to events like meetings with the instructor (or TA) and tests knowing that traffic and other variables outside of their control may be an issue.
- RALs complete assignments well before the deadline knowing that obstacles to completion such as life emergencies and technical difficulties often happen. Completing assignments in advance is a very effective safeguard against these events becoming issues that negatively affect one's grade.
- RALs monitor their own understanding of a subject and take the initiative when they need help by organizing study sessions with classmates, making appointments with the TA, getting a tutor, and getting help during the instructor's office hours.
- RALs communicate with the instructor proactively (i.e., BEFORE deadlines, perceived/anticipated issues, etc., instead of AFTER).

- RALs provide all pertinent information and sufficient level of detail when contacting the TA or instructor for help so as to make it easy for the TA/instructor to understand the situation and assist the student.
- RALs know that distributed practice is significantly more effective than cramming. Distributed practice is a learning procedure in which practice/study periods for a particular task/subject are separated by lengthy rest periods or lengthy periods of practicing different activities or studying other material, rather than occurring close together in time. For example, studying 1 hour a day for 6 days in a row is significantly more effective than studying 6 hours in 1 sitting even though the total number of hours studying is the same in both cases. Distributed practice is the opposite of cramming. RALs engage in distributed practice throughout the entire semester.
- RALs realize that learning is often a trial-and-error process. In other words, true learning involves focus, effort, discomfort, and struggle. This is normal and should be expected. The proverb, "No pain, no gain" often used in sports and athletics, also applies to academic learning.
- RALs know that failure is part of the learning process. However, RALs manage their engagement with the material so that their failures occur early on when stakes are low (e.g., example problems in the notes, clicker questions, practice tests, and even homeworks), instead of later on when stakes are high (e.g., exams).
- RALs respect and follow the chain of command. The chain of command for this class is: 1) TA, 2) Instructor, 3) ILSRE Department Head, 4) Terry College Associate Dean for Undergraduate Programs. If you have a problem with any aspect of the course, begin by contacting the TA and ONLY the TA. If the matter is not resolved to your satisfaction, then contact the next person in the chain of command while CC'ing the individual(s) you have already contacted, etc. (see <https://eoo.uga.edu/policies-resources/ndah-policy/> for exceptions).
- RALs understand that it is the instructor's duty to uniformly apply the class policies and procedures to every student without favoritism and/or prejudice. Therefore, RALs do NOT ask for special treatment.

## **The RAL Grading Component**

The RAL grading component is setup differently from the other grading components of this class (e.g., homeworks, tests, etc.). With the other grading components, students earn points by completing tasks that demonstrate mastery of the material. With the RAL component, all students are assumed to be acting as RALs until observed otherwise. Therefore, every student begins the semester with the maximum 5 points possible (remember, the RAL grading component is worth 5% of your overall class grade). However, every time a student is observed NOT acting as a responsible adult learner, they are deducted a point.

Some examples of behaviors that will result in you losing a point for not acting like a RAL are:

- Using an electronic device (cell phone, ipad, laptop, etc.) during an unauthorized time during class
- Engaging in any behavior during class time that disrupts the learning experience of your classmates (e.g., talking while the instructor is talking, etc.)
- Contacting the instructor with a question that has been addressed in the syllabus or an eLC announcement. For example, you will lose a point if you email the instructor and the instructor can answer/address your question/issue by simply saying something like:

"Read the syllabus"

OR

"Read and follow the instructions in the eLC announcement entitled ‘...’."

- Asking a question that was asked and answered earlier during the same class session (thereby demonstrating that you are not paying attention in class)
- Failing to follow either oral or written instructions in a timely manner. For example, failing to setup your WebAssign account in a timely manner as per posted instructions, failing to schedule your exam by the posted deadline as announced in class and/or on eLC, etc.
- Arriving late to an exam or meeting with the instructor or TA.
- Breaking the chain of command either directly or indirectly (i.e., indirectly by having an external agent who represents you break the chain of command) (see <https://eoo.uga.edu/policies-resources/ndah-policy//> for exceptions).
- Describing/explaining to either the TA or instructor in oral or written form that you have not behaved like a RAL (e.g., emailing the TA/instructor and asking for an extension on the homework because you waited to the last minute and then had a family emergency or technical problems).
- Failing to respond to the instructor/TA either orally or in writing in a timely manner.
- Attempting to use the excuse "I wasn't here last time" (or something to that effect) when asked a question in class.
- Asking the instructor for special treatment that is not extended to every student in the class.
- Asking for last minute changes/accommodations for situations other than acute emergencies outside of the control of the student.
- Arriving to an exam without one of the required materials (i.e., photo ID, UGA MyID credentials, WebAssign credentials, etc.).
- Emailing the instructor from either eLC or WebAssign (Email the instructor from your UGAmail account).
- Asking the instructor for special treatment that is not extended to every student in the class.
- Sending an ill-formed email to the instructor or TA. An email to the instructor/TA should be treated as a **professional correspondence**. Furthermore, it is important to provide all the information needed for the instructor/TA to assist you with whatever issue you have. Therefore, emails must include:
  - A greeting (This is not a text to a friend - Do not treat it as such)
  - Class name and time are provided at the beginning of the subject line of the email
  - First and last name and UGA student ID shortly after the greeting
  - A detailed description of the problem (e.g., If the instructor/TA has to respond with something like: "Which question number are you talking about?", you lose a point)
  - A closing

Omission of any one of the features above in an email to the instructor/TA will result in losing a RAL point. When emailing the instructor follow the salient points and format of the example email on the next page.

This email was sent to [djcarlyle@uga.edu](mailto:djcarlyle@uga.edu) from the student's UGA email account.

To: [djcarlyle@uga.edu](mailto:djcarlyle@uga.edu) CCs the TA

Cc: Derek Payton Dyal X IMPORTANT: The student identifies his class (name and time) at the beginning of the subject line.

BUSN 4000 11:30AM: Question about HW4

Hi Dr. C, Greeting

This is Caden Wiley (UGA 8105675891) from your BUSN 4000 11:30AM class. I contacted our TA about this, but neither of us could figure it out: The student provides his first and last name and UGA student ID in the first sentence.

I am losing points on question 6b of HW4 even though I have the correct answer. Can you please take a look and let me know what is going on?

Thanks,

Caden Notice how the student explains his efforts so far and how he followed the chain of command.

Notice how the student provides the homework number (HW4) and question number (6b).

Closing

Note: Even though the major tone of the message should be a professional one, humor and jokes are appreciated.

With all of this being said, the instructor VERY MUCH encourages students to contact him for help and assistance. However, the expectation is that the student will have already done their absolute best in fulfilling the learner's part of the learning process on their own prior to contacting the instructor. **Do your due diligence.**

This is a list of common behaviors that result in losing a RAL point. However, this list is not exhaustive. A student can lose a point for any behavior that demonstrates that they are not taking full responsibility for the learner's part of the learning process. Finally, the decision to deduct a RAL point is at the sole discretion of the instructor.

## Homework

Student engagement with the course material is considered an integral part of the learning process. There are eleven required homework assignments planned for this semester (as well as an extra credit “About This Course” homework, listed as HW0 below, covering the policies and procedures of BUSN 4000).

To allow for life events such as illness, family emergencies, official UGA athletic commitments, religious holidays, etc., the lowest homework grade will be dropped. Because one homework grade will be dropped, **NO MAKE-UP assignments and NO LATE assignments will be accepted FOR ANY REASON.** Furthermore, each homework will be online and accessible by students for at least 7 days prior to the deadline. Therefore, **last minute computer failures, illnesses, etc. will not excuse you from meeting the homework submission deadlines.**

**IMPORTANT:** The homeworks in this class are designed to prepare students for the exams and, as a result, the homeworks are meant to be challenging. Be advised: Simply coming to class and listening to the lectures is NOT enough to prepare the average student for the corresponding homework. The standing expectation of this class is that students will spend 1 -3 hours studying the class materials outside of class BEFORE attempting the corresponding homework. Students who do not meet this expectation should not expect to be successful in the homeworks and therefore the class as a whole.

Individual assignment information and due dates can be found in the table below. **All assignments are due by 11:59PM ET on the dates shown.**

### Homework Schedule

Assignment	Due Date	Due Day	Textbook Reference
HW0*	01/19	W	Course Syllabus and eLC
HW1	01/21	F	Tan Ch. 1
HW2	01/26	W	Tan Ch. 2 Pt. 1
HW3	02/02	W	Tan Ch. 2 Pt. 2
HW4	02/09	W	Tan Ch. 3 Pt. 1
HW5	02/16	W	Tan Ch. 3 Pt. 2 & Ch. 4
HW6	02/23	W	Tan Ch. 5 & 8, Dielman Ch. 2
HW7	03/18	F	Dielman Ch. 3 & 4 Pt. 1
HW8	03/30	W	Dielman Ch. 3 & 4 Pt. 2
HW9	04/06	W	Dielman Ch. 5 & 6
HW10	04/13	W	Dielman Ch. 7
HW11	04/29	F	Dielman Ch. 8 & 10

**\* HW0 is an “About The Course” Homework, worth two points extra credit, covering course policies and procedures.**

## Exams

Exams in this course will be taken using WebAssign on the following dates.

Midterm I: Thursday February 24<sup>th</sup> & Friday February 25<sup>th</sup>, 2022  
Midterm II: Thursday April 14<sup>th</sup> & Friday April 15<sup>th</sup>, 2022  
Final Exam: Tuesday May 10<sup>th</sup>, 2022 at 7PM – 10PM



The midterms are WebAssign based and will be scheduled in a computer lab outside of normal class meetings, on either a Thursday or a Friday. A sign-up sheet will be posted on eLC for you to select a time that fits your schedule on one of these two days. No make-up test will be offered outside of this two-day testing period. If you know you have certain schedule conflicts over the testing window, you should complete the sign-up survey as soon as it is available (typically on the Thursday morning, 14 days prior to the test) since all slots are available on a first-come, first-served basis, with no exceptions. If you fail to select a time during this sign-up period, which will run through 11:59pm on the Sunday prior to each test, you will be assigned a time by your instructor out of the time periods still available.

When completing a booking via the sign-up survey, it is the student's responsibility to ensure all details are entered correctly. If some information is entered incorrectly by the student and, as a result, the sign-up data cannot be matched to the course gradebook, the student forfeits all submitted reservations.

Once you reserve a test slot you will immediately be sent a confirmation email with the details of your reservation. This email is your confirmation that you completed the booking form, and the reservation went through, although if the details contained are incorrect, or if the time selected no longer suits your schedule, you should immediately cancel the reservation and make a fresh booking using the reschedule link at the bottom of the confirmation email. Note that making a second reservation (or more) without cancelling earlier bookings may see you forfeit all submitted reservations.

**If you do not receive a confirmation email, you will need to return to the reservation site and complete the booking in its entirety using your UGA email address, since without this confirmation you do not have a booking.** Shortly after the sign-up window closes, confirmation of your exam time and location will be posted to the grade section of eLC. If you wish to notify your instructor about a discrepancy between the posted time and the one listed on eLC, you must forward your instructor the confirmation of booking email when doing so. **Again, if you do not have a confirmation email, or if the details listed on the email do not match that in the course gradebook exactly, your booking/reservation is NOT valid.**

**Note that anyone taking the test at a time or location other than the one officially listed in the eLC gradebook on the Tuesday prior to the test will receive a 10-point deduction to their test grade. Additionally, failure to follow test instructions and procedures (including, but not limited to, providing photo ID, signing out of the room at the end of the test, or arriving at the test location after other students have started testing) may receive additional penalties.**

Any technical difficulties (such as computer/Microsoft Excel problems) must be reported to the exam proctor immediately at the time of the test by the student. Any accommodations for those difficulties will be provided during that testing session. No additional accommodations will be provided once the student has left the exam room.

Any answers not submitted *prior* to time expiring on the test will not be credited, and there will be no automatic submission of typed responses at the moment time does expire. As a result, you should submit any typed responses frequently throughout the test, particularly in the last 5-10 minutes. Whereas a WebAssign clock timer will typically display the time remaining during the test, it is a student's personal responsibility to monitor their own test time should this timer fail to appear or function correctly. Each test slot will finish at the scheduled time, meaning that if you arrive late you will not receive the full time permitted.

After each midterm you may examine your test - to see what you missed and learn from your mistakes/triumphs - by first visiting the TA during his/her office hours and then, only afterwards, visiting the instructor during his office hours, if issues persist. **IMPORTANT:** An appeal of an exam grade must be made in writing within 1 week of the posting of the grade. After this 1 week period, grades are final.

The final will be cumulative, multiple choice and administered via scantron (not computer) with all necessary output provided as part of the test booklet.

Be aware that exams may cover material from class, as well as from the textbook, homework, and course videos. All exams begin promptly. Please be considerate of your classmates by arriving on time. If you arrive after at least one student has finished the exam and left the room, you will NOT be allowed to sit for the exam and will receive a "0". Turn off cell phones before entering the exam room. If your cell phone rings or vibrates during the exam, you may receive a "0" on the exam.

For each exam you will need to bring your student ID, a pencil and a calculator that meets the previously stated calculator policy. **Note that cell phone calculators are not allowed!** ANY USE OF GRAPHING/PROGRAMMABLE CALCULATORS, CELLPHONES, iPADS, OR ANY DEVICE WITH INTERNET ACCESS DURING A TEST IS CONSIDERED A VIOLATION OF THE UGA ACADEMIC HONESTY POLICY AND WILL BE REPORTED TO The Office of Student Academic Services. Note you will also need your login details for both your UGA and Cengage accounts to be able to access the computerized test.

**No make-up exams will be offered, under any circumstances.** If you cannot take a midterm test due to an extreme and well-documented emergency (e.g. death in the family, appendicitis, athletic conflict), your professor may add the weight from the missed test to your final exam after receiving sufficient documentation. If you do miss a midterm test for a documented emergency, the remaining midterm test will be worth the full 20% of your grade and cannot be exempted even in the case of an additional emergency. If a student cannot take the final exam at the scheduled time due to an extreme and well-documented emergency, the student may be permitted (at instructor's discretion) to take the test during the next offering of the course final exam, which may be in a future semester.

If you would like to appeal your grade, your appeal must be addressed to the instructor and the instructor only (Note: This is an exception to the chain of command – Begin by contacting the instructor) and made in writing within one week of the posting of the grade.

## Honor Code

"I will be academically honest in all of my academic work and will not tolerate academic dishonesty of others." A Culture of Honesty, the University's policy and procedures for handling cases of suspected dishonesty, can be found at <http://www.uga.edu/ovpi>. All academic work must meet the standards contained in "A Culture of Honesty" found at <https://ovpi.uga.edu>. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

The Terry College is committed to promoting diversity, equity, inclusion, and belonging among its students, faculty, and staff. This class welcomes the open exchange of ideas and values freedom of thought and expression. This class provides a professional environment that recognizes the inherent worth of every person. It aims to foster dignity, understanding, and mutual respect among all individuals in the class.

## Classroom Policies & Procedures

1. The instructor holds the following expectations for all students.
  - Act as a Responsible Adult Learner (RAL) at all times.
  - Show respect for the instructor, teaching assistants, and other class members at all times.
  - Uphold [A Culture of Honesty](#) at all times during the semester, both within and without official class meetings.
2. **THERE IS A STRICT POLICY OF NO ELECTRONIC DEVICES IN THE CLASSROOM – THIS MEANS NO LAPTOPS, NO TABLETS, AND NO SMARTPHONES IN USE DURING CLASS SESSIONS.**

Unauthorized use of electronic devices during class time will result in these penalties:

**1<sup>st</sup> Offense.** One RAL point will be deducted from the student's grade.

**2<sup>nd</sup> Offense.** The student will receive a zero for the entire 5% of the RAL grading component.

**3<sup>rd</sup> Offense.** The student will be administratively withdrawn from the class.

3. In general, you are responsible for devoting the time and effort necessary to master the material covered in this course. A general rule of thumb is that two hours spent outside of class are needed for every hour of lecture. Depending on your background and aptitude, you may need more study time. Be aware that exams may cover material from class, as well as from the textbook and homework.
4. You are responsible for all announcements and assignments announced on eLC. Students are instructed to check the eLC announcements on a daily basis. Furthermore, students are expected to carefully READ and follow the instructions of any and all announcements in a timely manner. This includes, but is not limited to, exam dates or homework deadline changes, etc.
5. BUSN 4000 is an upper-division undergraduate course in business analytics. As such, upper-division undergraduate-level critical thinking is required by students. This level of critical thinking entails generalizing the concepts, strategies, skills, techniques, and methods covered in this course and applying them to novel situations. Both inductive and deductive reasoning are essential in this process. Students failing to demonstrate upper-division undergraduate-level critical thinking in their coursework have not met the standards and expectations of this course and therefore should not expect to succeed in this class.
6. If you are assigned any readings or videos to watch covering a particular topic, complete those readings and videos BEFORE contacting the instructor/TA with questions.
7. The best way to contact the instructor is via email at [djcarlyle@uga.edu](mailto:djcarlyle@uga.edu).

## Mental Health and Wellness Resources

If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

- UGA has several resources for a student seeking mental health services (<https://www.uhs.uga.edu/bewelluga/bewelluga>) or crisis support (<https://www.uhs.uga.edu/info/emergencies>).
- If you need help managing stress anxiety, relationships, etc., please visit BeWellUGA (<https://www.uhs.uga.edu/bewelluga/bewelluga>) for a list of FREE workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.
- Additional resources can be accessed through the UGA App.

## Getting Extra Help

As the material in this course builds on itself over the semester, it is important that you not fall behind. The Division of Academic Enhancement (DAE) at UGA, located in Milledge Hall, has availability for free, small-group tutoring appointments for BUSN 4000. Students can schedule a virtual, face-to-face appointment or a study pod with a Peer Tutor via their brand new scheduling platform, [Penji](#). All of their tutors are undergraduate, UGA students who are CRLA certified. For more information on booking an appointment or study pod, please visit [dae@uga.edu/services/tutoring](mailto:dae@uga.edu/services/tutoring) or email [tutor@uga.edu](mailto:tutor@uga.edu).

Additionally, a list of former BUSN 4000 students interested in privately tutoring for the course either in person or via Zoom (for a fee) can be found on eLC.

## Incomplete Policy

A grade of Incomplete (“I”) will only be given only if a student has a grade of “B” or higher but, for non-academic reasons beyond his/her control, was unable to meet the full requirements of the course. If an “I” is issued, all course requirements must be completed by the end of the following semester. If the student does not do so, the “I” will automatically change to a grade of “F.” Students who wish to invoke this policy must provide their instructor with documentation of the non-academic circumstances that impeded course completion.

## DRC Accommodations

If you have a legally-identified disability and believe you are entitled to accommodations, contact the UGA DRC no later than one week after a) you add the course, or b) your disability status legally changes. The provision of any test accommodations requires at least a full weeks’ notice. If you wish to test at the DRC, your test appointment must also be made with them at least one week prior to the test.

**Please be aware that grades posted at the end of the semester are final and are not a starting point for negotiations. Please respect this and do not email your instructor requesting “special consideration”. The same grading policy will be applied to all students, without exceptions.**

## COVID-19 Information

### Face coverings:

Following guidance from the University System of Georgia, face coverings are recommended for all individuals while inside campus facilities.

### How can I obtain the COVID-19 vaccine?

University Health Center is scheduling appointments for students through the UHC Patient Portal ([https://patientportal.uhs.uga.edu/login\\_dualauthentication.aspx](https://patientportal.uhs.uga.edu/login_dualauthentication.aspx)). Learn more here – <https://www.uhs.uga.edu/healthtopics/covid-vaccine>.

The Georgia Department of Health, pharmacy chains and local providers also offer the COVID-19 vaccine at no cost to you. To find a COVID-19 vaccination location near you, please go to: <https://georgia.gov/covid-vaccine>.

In addition, the University System of Georgia has made COVID-19 vaccines available at 15 campuses statewide and you can locate one here: <https://www.usg.edu/vaccination>.

### **What do I do if I have COVID-19 symptoms?**

Students showing COVID-19 symptoms should self-isolate and schedule an appointment with the University Health Center by calling 706-542-1162 (Monday-Friday, 8 a.m.-5p.m.). Please DO NOT walk-in. For emergencies and after-hours care, see, <https://www.uhs.uga.edu/info/emergencies>.

### **What do I do if I test positive for COVID-19?**

If you test positive for COVID-19 at any time, you are required to report it through the DawgCheck Test Reporting Survey. We encourage you to stay at home if you become ill or until you have excluded COVID-19 as the cause of your symptoms. UGA adheres to current Georgia Department of Public Health (DPH) quarantine and isolation guidance and requires that it be followed. Follow the instructions provided to you when you report your positive test result in DawgCheck.

### **Guidelines for COVID-19 Quarantine Period**

Students who are fully vaccinated do not need to quarantine upon exposure unless they have symptoms of COVID-19 themselves. All others should follow the Georgia Department of Public Health (DPH) recommendations:

Students who are not fully vaccinated and have been directly exposed to COVID-19 but are not showing symptoms should self-quarantine for 10 days. Those quarantining for 10 days must have been symptom-free throughout the monitoring period and continue self-monitoring for COVID-19 symptoms for a total of 14 days. You should report the need to quarantine on DawgCheck (<https://dawgcheck.uga.edu/>), and communicate directly with your faculty to coordinate your coursework while in quarantine. If you need additional help, reach out to Student Care and Outreach ([sco@uga.edu](mailto:sco@uga.edu)) for assistance. Students, faculty and staff who have been in close contact with someone who has COVID-19 are no longer required to quarantine if they have been fully vaccinated against the disease and show no symptoms.

The above is correct as of 8/1/21; follow DawgCheck or see DPH website for most up-to-date recommendations.

### **Well-being, Mental Health, and Student Support**

If you or someone you know needs assistance, you are encouraged to contact Student Care & Outreach in the Division of Student Affairs at 706-542-7774 or visit <https://sco.uga.edu/>. They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

UGA has several resources to support your well-being and mental health: <https://well-being.uga.edu/>

Counseling and Psychiatric Services (CAPS) is your go-to, on-campus resource for emotional, social and behavioral-health support: <https://caps.uga.edu/>, TAO Online Support (<https://caps.uga.edu/tao/>), 24/7 support at 706-542-2273. For crisis support: <https://healthcenter.uga.edu/emergencies/>.

The University Health Center offers FREE workshops, classes, mentoring and health coaching led by licensed clinicians or health educators: <https://healthcenter.uga.edu/bewelluga/>

### **Monitoring conditions:**

Note that the guidance referenced in this syllabus is subject to change based on recommendations from the Georgia Department of Public Health, the University System of Georgia, or the Governor's Office. For the latest on UGA policy, you can visit [coronavirus.uga.edu](https://coronavirus.uga.edu).

## Course Schedule

The following is a schedule of course topics. All chapter references below are to the primary text: *Applied Calculus & Regression Analysis: University of Georgia Custom Edition* unless otherwise specified.

DATE	DAY	EVENT	TOPIC/READING ASSIGNMENT
Week 1: TOPIC: Syllabus & Pre-Calculus Review			
01/10	MWF	Class Meeting	Syllabus
Week 2: TOPIC: Intro to Functions & Limits			
01/17	WF	Class Meeting	Tan Section 2.1-2.4
01/19	W	HW 0 Due (EC)	
01/21	F	HW 1 Due	
Week 3: TOPIC: The Derivative, Differentiation & Marginal Functions			
01/24	MWF	Class Meeting	Tan Section 2.6, 3.1, 3.2 & 3.4
01/26	W	HW 2 Due	
Week 4: TOPIC: Elasticity & Applications of the Derivative			
01/31	MWF	Class Meeting	Tan Section 3.4, 3.5, 4.1 & 4.2
02/02	W	HW 3 Due	
Week 5: TOPIC: Optimization, Exponential and Logarithmic Functions & Multivariable Calculus			
02/07	MWF	Class Meeting	Tan Sections 4.4, 5.1, 5.2, 5.4, 5.5, 8.1 & 8.2
02/09	W	HW 4 Due	
02/10	R	Test 1 Sign-Up	Complete via link on eLC
Week 6: TOPIC: Partial Derivatives & The Normal Distribution			
02/14	MWF	Class Meeting	Tan Section 8.2, Dielman Sections 2.1-2.4
02/16	W	HW 5 Due	
Week 7: TOPIC: Test 1 Review			
02/21	MW	Class Meeting	Test 1 Review
02/23	W	HW 6 Due	
02/24	R	Exam 1	*Select your specific day/time via online survey on eLC by 2/20 at the latest.
02/25	F	Exam 1	
Week 8: TOPIC: Simple Linear Regression & Multiple Regression Review			
02/28	MWF	Class Meeting	Dielman Chapters 3 & 4
SPRING BREAK!!			
Week 9: TOPIC: Simple Regression Regression & Multiple Regression Review			

03/14	MWF	Class Meeting	Dielman Chapters 3 & 4 (continued)
03/18	F	HW 7 Due	

---

DATE	DAY	EVENT	TOPIC/READING ASSIGNMENT
------	-----	-------	--------------------------

---

**Week 10: TOPIC: Simple Regression Regression & Multiple Regression Review**

03/21	MWF	Class Meeting	Dielman Chapter 3 & 4 (continued)
-------	-----	---------------	-----------------------------------

**Week 11: TOPIC: Curvilinear Models and Regression Assumptions**

03/28	MWF	Class Meeting	Dielman Chapters 5 & 6
03/30	W	HW 8 Due	
03/31	R	Test 2 Sign-Up	Complete via link on eLC

**Week 12: TOPIC: Indicator and Interaction Variables**

04/04	MWF	Class Meeting	Dielman Chapter 7
04/06	W	HW 9 Due	

**Week 13: TOPIC: Test 2 Review**

04/11	MW	Class Meeting	Test 2 Review
04/13	W	HW 10 Due	
04/14	R	<b>Exam 2</b>	*Select your specific day/time via online survey on eLC by 11/14 at the latest.
04/15	F	<b>Exam 2</b>	

**Week 14: TOPIC: Variable Selection Procedures**

04/18	MWF	Class Meeting	Dielman Chapter 8
-------	-----	---------------	-------------------

**Week 15: TOPIC: Logistic Regression**

04/25	MWF	Class Meeting	Dielman Chapter 10
04/29	F	HW 11 Due	

**Week 16: TOPIC: Final Exam Review**

05/03	T	Class Meeting	Final Exam Review
-------	---	---------------	-------------------

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.