A&M
COMMERCE

ENGR 2304 Computing for Engineers
SECTIONS 01W, 02W, and 03W - COURSE SYLLABUS: FALL 2020

NOTE: Section 03W is only for EE students. If you are not an EE student, please switch sections. Section 03W will offer more emphasis on GNU OCTAVE applications.

Instructor: Burchan Aydin, Ph.D.
Office Location: AG/IT 213-B (*Engineering and Technology Building 2nd floor*)
Office Hours: Online Monday and Wednesday 1:00 to 4:00 pm

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University Email Address: burchan.aydin@tamuc.edu

Preferred Form of Communication: e-mail (please expect a response within few hours)

COURSE INFORMATION

Course Schedule: Since this is an online course, there is no timeslot assigned by the department for this course. All lectures will be recorded and posted for students. If the instructor decides to have a live session though, the students will be notified of the time in advance. Attendance to live sessions is not mandatory.

Course Location: This is an online class*.* There is no face to face sessions. All class sessions are either live or asynchronous.

Materials – Textbooks

Textbook(s) Required
- Engineering with Excel, Ronald W. Larsen, 5th Edition, Pearson (ISBN 0132788659)
- Free tutorial for GNU Octave that can be downloaded from the following link.
  http://calliope.dem.uniud.it/CLASS/ING-AMB/2018/GNU-Octave-for-beginners.pdf

Textbook Optional
- MATLAB for Engineering Application, William J. Palm III, 4th Edition, McGraw-Hill, 2019 (ISBN: 9781260215472)

The *syllabus/schedule are subject to change.*

Software Required

- MS Excel (any version)
- OCTAVE software
- C compiler

Course Description

The purpose of this class is to introduce students to the fundamentals of how to identify, formulate and analyze problems based on the knowledge of mathematics, science and engineering by using modern computing techniques. Concepts gained will pave the way to more advanced problem framing and selection of appropriate programming computing approaches. Prerequisite: MATH 2413.

Course Learning Outcomes

- **Develop** basic problem solving skills
- **Develop** experience in identifying and formulating a solution to an engineering problem using a software tool
- **Produce** effective plot of numerical data using Excel, MATLAB, and Octave software.
- **Apply** MATLAB, Octave, and Excel software skills to mathematical and engineering problems.
- **Implement** the computing techniques chosen to solve engineering problems.
- **Use** appropriate software tools Excel, MATLAB, Octave for solving engineering problems**.**
- **Write** programs in MATLAB and Octave to solve and analyze basic engineering problems.
- **Utilize** spreadsheet tools to enhance engineering problem solving skills.

COURSE REQUIREMENTS

This course is fully online, and supported by a D2L web page.

Point Distribution

Assessment Type	%
Homework	20
Quizzes	10
Participation and Attendance	5
Midterm 1	20
Midterm 2	20
Final Exam	25
Total	**100**

Based on the points received, the grades will be determined according to the criteria below.

Grade Criteria

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 – 0

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Important Notes:

- Some class sessions will be live, while some will be asynchronous. The instructor will let students know in advance if the class session will be live. Attendance is not mandatory to the live sessions. Both live and asynchronous sessions will be recorded and made available for students on D2L.
- Exams and quizzes will be proctored live, thus students have to attend the live session when there is an exam or quiz.
- All assignments have to be submitted under the designated dropbox at the D2L website. No e-mail submissions for assignments will be accepted.
- For handwritten assignments, exams, or quizzes students must scan all work in a single document either as a pdf or as a MS Word file. If you do not have a scanner, you can use your smartphone to scan files in a single document. There are several applications available for both Apple and Android phones.
- Do not forget to title the documents as: yourfirstname_your lastname_assignment number
- Late work is not accepted, unless student has an acceptable excuse proven by a doctor's note or any legal documentation.

Minimal Technical Skills Needed

Working knowledge and basic skills using Microsoft Word and PowerPoint.

Instructional Methods

The instructional methods in this course include; lectures, class discussion, written assignments, problem solving, and assignments using MS Excel, Octave software and C compiler.

The following assessments will be performed throughout this course to assess individual progress toward achievement of course learning outcomes. The final course grade will be calculated based on the following assessments:

Homework Assignments: Homework Assignments are due at a time that the instructor announces during the semester, delivered in the appropriate drop box on D2L. For handwritten assignments, students must scan all work in a single document either as a pdf or as a MS Word file. If you do not have a scanner, you can use your smartphone to scan files in a single document. There are several applications available for both Apple and Android phones.

Quizzes: There will be three quizzes during the semester. The quiz will be given during live lecture sessions. The estimated dates are listed in the syllabus. Each quiz will be on the material covered in the previous weeks. Details for each quiz will be provided by the instructor during the semester.

Midterm Exams: There will be two-midterm exams during the course. The details of the

midterm exam will be provided during the semester. The exams will be online, proctored by the instructor on a live session.

Final Exam. The final exam will be comprehensive focusing on Excel and Octave. The details will be provided several weeks before the end of the semester.

TECHNOLOGY REQUIREMENTS

Browser support

D2L is committed to performing key application testing when new browser versions are released. New and updated functionality is also tested against the latest version of supported browsers. However, due to the frequency of some browser releases, D2L cannot guarantee that each browser version will perform as expected. If you encounter any issues with any of the browser versions listed in the tables below, contact D2L Support, who will determine the best course of action for resolution. Reported issues are prioritized by supported browsers and then maintenance browsers.

Supported browsers are the latest or most recent browser versions that are tested against new versions of D2L products. Customers can report problems and receive support for issues. For an optimal experience, D2L recommends using supported browsers with D2L products.

Maintenance browsers are older browser versions that are not tested extensively against new versions of D2L products. Customers can still report problems and receive support for critical issues; however, D2L does not guarantee all issues will be addressed. A maintenance browser becomes officially unsupported after one year.

Note the following:

- Ensure that your browser has JavaScript and Cookies enabled.
- For desktop systems, you must have Adobe Flash Player 10.1 or greater.
- The Brightspace Support features are now optimized for production environments when using the Google Chrome browser, Apple Safari browser, Microsoft Edge browser, Microsoft Internet Explorer browser, and Mozilla Firefox browsers.

Desktop Support

Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Microsoft® Edge	Latest	N/A
Microsoft® Internet Explorer®	N/A	11
Mozilla® Firefox®	Latest, ESR	N/A
Google® Chrome™	Latest	N/A

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Browser	Supported Browser Version(s)	Maintenance Browser Version(s)
Apple® Safari®	Latest	N/A

Tablet and Mobile Support

Device	Operating System	Browser	Supported Browser Version(s)
Android™	Android 4.4+	Chrome	Latest
Apple	iOS®	Safari, Chrome	The current major version of iOS (the latest minor or **point** release of that major version) and the previous major version of iOS (the latest minor or **point** release of that major version). For example, as of June 7, 2017, D2Lsupports iOS 10.3.2 and iOS 9.3.5, but not iOS 10.2.1, 9.0.2, or any other version. Chrome: Latest version for the iOS browser.
Windows	Windows 10	Edge, Chrome, Firefox	Latest of all browsers, and Firefox ESR.

- You will need regular access to a computer with a broadband Internet connection. The minimum computer requirements are:
    - 512 MB of RAM, 1 GB or more preferred
    - Broadband connection required courses are heavily video intensive
    - Video display capable of high-color 16-bit display 1024 x 768 or higher resolution

- **For YouSeeU Sync Meeting sessions *8 Mbps* is required.** Additional system requirements found here: https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements

- You must have a:
    - Sound card, which is usually integrated into your desktop or laptop computer
    - Speakers or headphones.
    - *For courses utilizing video-conferencing tools and/or an online proctoring solution, a webcam and microphone are required.

- Both versions of Java (32 bit and 64 bit) must be installed and up to date on your machine. At a minimum Java 7, update 51, is required to support the learning management system. The most

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current version of Java can be downloaded at: [JAVA web site](http://www.java.com/en/download/manual.jsp)
http://www.java.com/en/download/manual.jsp

- Current anti-virus software must be installed and kept up to date.

Running the browser check will ensure your internet browser is supported.
  Pop-ups are allowed.
  JavaScript is enabled.
  Cookies are enabled.

- You will need some additional free software (plug-ins) for enhanced web browsing. Ensure that you download the free versions of the following software:
  o [Adobe Reader](https://get.adobe.com/reader/) https://get.adobe.com/reader/
  o [Adobe Flash Player](https://get.adobe.com/flashplayer/) *(version 17 or later)* https://get.adobe.com/flashplayer/
  o [Adobe Shockwave Player](https://get.adobe.com/shockwave/) https://get.adobe.com/shockwave/
  o [Apple Quick Time](http://www.apple.com/quicktime/download/) http://www.apple.com/quicktime/download/

- At a minimum, you must have Microsoft Office 2013, 2010, 2007 or Open Office. Microsoft Office is the standard office productivity software utilized by faculty, students, and staff. Microsoft Word is the standard word processing software, Microsoft Excel is the standard spreadsheet software, and Microsoft PowerPoint is the standard presentation software. Copying and pasting, along with attaching/uploading documents for assignment submission, will also be required. If you do not have Microsoft Office, you can check with the bookstore to see if they have any student copies.

ACCESS AND NAVIGATION

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

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

COMMUNICATION AND SUPPORT
Brightspace Support

Need Help?
Student Support

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

Technical Support

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If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778 **LiveChat** or click on the **Live Chat** or click on the words "click here" to submit an issue via email.

System Maintenance

D2L runs monthly updates during the last week of the month, usually on Wednesday. The system should remain up during this time unless otherwise specified in an announcement. You may experience minimal impacts to performance and/or look and feel of the environment.

Interaction with Instructor Statement

The instructor will response to your questions on D2L tools within 24 hours. For urgent questions, and for questions that are not answered within 24 hours, please prefer e-mail correspondence.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures/Policies

- Some class sessions will be live, while some will be asynchronous. The instructor will let students know in advance if the class session will be live. Attendance is not mandatory to the live sessions. Both live and asynchronous sessions will be recorded and made available for students on D2L.
- All assignments have to be submitted under the designated dropbox at the D2L website. No e-mail submissions for assignments will be accepted.
- Do not forget to title the documents as: yourfirstname_your lastname_assignment number
- Late work is not accepted, unless student has an acceptable excuse proven by a doctor's note or any legal documentation.

Syllabus Change Policy

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

University Specific Procedures

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.
http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette http://www.albion.com/netiquette/corerules.html

TAMUC Attendance

For more information about the attendance policy please visit the Attendance webpage and

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http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13student s/academic/13.99.99.R0.01.pdf

Academic Integrity
Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13student s/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf

Graduate Student Academic Dishonesty 13.99.99.R0.10

http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13student s/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf

ADA Statement
Students with Disabilities
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:
Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library- Room 162
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
Email: studentdisabilityservices@tamuc.edu

Website: Office of Student Disability Resources and Services

http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/

Nondiscrimination Notice
Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1,

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license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf) document and/or consult your event organizer.

Web url:
http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf

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

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COURSE OUTLINE / CALENDAR

Week #	Week of	Topic	Textbook By Ronald W. Larsen	Assignment <mark>(Specific dates will be determined based on class progress. Instructor will announce at least a week in advance)</mark>
1	Aug 24	• Introductions and Course overview • Introduction to Excel • Using Excel's Ribbon	Ch.1 and Ch.2	
2	Aug 31	• Graphing with Excel	Ch.3	
3	Sep 7	• Excel Functions	Ch.4	HW 1
4	Sep 14	• Linear Regression	Ch.6	
5	Sep 21	• Excel's Statistics Functions	Ch.7	Quiz 1
6	Sep 28	• Excel's Finance Functions	Ch.8	
7	Oct 5	• Iterative Solutions using Excel	Ch.9	**Midterm Exam 1**
			GNU OCTAVE tutorial	
8	Oct 12	• An overview of MATLAB and Octave • Variables and Operators		
9	Oct 19	• Functions		HW 2
10	Oct 26	• Programming		Quiz 2
11	Nov 2	• Programming		**Midterm Exam II**
12	Nov 9	• Advanced Plotting		
13	Nov 16	• Statistics, Probability, and Interpolation		HW 3
14	Nov 23	• Linear algebraic equations		Quiz 3
15	Nov 30	• An Overview, Fundamentals of Programming with C language	Handout	
16	Dec 5	• Final Exam Week		**Final Exam**

This schedule is tentative. It is subject to change.

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