

**ENGR1121 Y&Z – Computing in Mechanical Engineering**  
**Department of Mechanical Engineering**  
**Allen E. Paulson College of Engineering and Computing**  
**Georgia Southern University – Armstrong Campus**  
**Spring 2021**

**GENERAL INFORMATION**

Class Hours: ENGR1121 Y MW 2:30-4:20 pm  
ENGR1121 Z TR 9:30-11:10 am  
Class Location: ENGR1121 Y University Hall # 112  
ENGR1121 Z University Hall # 114

Instructor: Dr. Priya T. Goeser  
Office: University Hall # 249B  
Phone: 912.344.2874  
Email: [pgoeser@georgiasouthern.edu](mailto:pgoeser@georgiasouthern.edu)

Office Hours: Open hours for students via Google Meet or Email.  
Please check [Dr. Goeser Schedule](#) and GSU's Folio for details and any updates.

Required Textbook(s): 1. Spreadsheet Tools for Engineers Using Excel, 4/e, Byron Gottfried, University of Pittsburgh, ISBN: 1259875962, Copyright year: 2019  
2. [MATLAB Marina](#) (available at no cost to students); Project Director: Priya Goeser

Recommended Textbook: MATLAB for Engineering Applications , 4/e, William J. Palm III, University of Rhode Island, ISBN: 1259405389, Copyright year: 2019

Other Resources: The [Engineering Learning Center](#) has student tutors available for help with this course.

Course URL: All other course material will be posted on GSU's Folio.

**PREREQUISITES**

Prior or concurrent enrollment in MATH 1112 or MATH 1113 or MATH 1441.

**CATALOG DESCRIPTION**

This is an introductory level computing and application course for Mechanical Engineering students. It is intended for students to develop their technical computing skill using platforms that are current and widely used in the professional world. Standard mathematical functions and applications including logical expression, data input/output, arrays, and statistical functions will be introduced. Specific mechanical engineering applications are utilized to introduce students to basic problem solving logic, flow charting, and programming.

**TOPICS COVERED**

Spreadsheet Tools for Engineers using Excel

Chapter 1 Engineering Analysis and Spreadsheets  
Chapter 2 Creating an Excel® Worksheet  
Chapter 3 Editing an Excel® Worksheet  
Chapter 4 Making Logical Decisions (IF-THEN-ELSE)  
Chapter 5 Graphing Data  
Chapter 6 Analyzing Data Statistically  
Chapter 7 Fitting Equations to Data  
Chapter 8 Sorting and Filtering Data  
Chapter 9 Transferring Data  
Chapter 10 Converting Units  
Chapter 14 Creating and Executing Macros and Functions (Visual Basic)

## MATLAB Marina – programming using MATLAB

### Introduction to MATLAB

Fundamental Programming Concepts: Variables, Arrays, Logic Expressions, Conditional Structures, Iteration and Functions

Advanced Programming Concepts: Characters & Strings, Cell Arrays, Structures and File I/O

Applications: Plotting, Linear Algebraic Equations, Data Statistics, Curve fitting and Interpolation

### **GRADING POLICY**

The grading policy will be based on:

Labs – 20%

Projects – 15%

Exam 1 – 20%

Exam 2 – 15%

Exam 3 – 15%

Exam 4 – 15%

Final grades will be assessed as:

A - (90 - 100)

B - (80 - 89)

C - (70 - 79)

D - (60 - 69)

F - (< 60)

### **HOMEWORK ASSIGNMENTS**

Homework Assignments will not be formally assigned or graded. Practice problems are available on the modules on MATLAB Marina (exercises) and in the textbook on Excel (end of chapter/section problems). Students are encouraged to work through and/or be familiar with these problems.

### **LABS**

Labs will be computing exercises based on the material covered in class. Labs will be assigned at the beginning of each lab session and will be due at the end of the same lab session. All labs are to be submitted in the required format. Late and missed labs will automatically get a zero for that particular lab. No excuses will be accepted, except emergency situations (with the instructor's approval; written documentation required). For justified and documented excuses, a new due date must be negotiated with the instructor immediately (within 48 hrs.).

### **PROJECTS**

Projects will be a computing exercises based on the assignments, labs and material covered in the class. Projects will be assigned every 2-3 weeks and will be due a week from the date they are assigned. All projects are to be submitted in the required format. Late and missed projects will automatically get a zero for that particular project. No excuses will be accepted, except emergency situations (with the instructor's approval; written documentation required). For justified and documented excuses, a new due date must be negotiated with the instructor immediately (within 48 hrs.).

### **EXAMS**

Exams will be closed book/notes and individual effort. Exams will cover all course material (lectures, handouts, assignments, labs, projects, etc.) up to the class period before the exam. No makeup exams will be given except for an emergency situation (written documentation required). For justified and documented excuses, a new date must be negotiated with the instructor immediately (within 48 hrs.).

### **COMMUNICATIONS**

Students are expected to check the course web-site on folio regularly for updates and announcements. Any email communication will be sent to GSU email addresses only which students are expected to check regularly (at least once a day). Any email communication sent to the instructor from students must be done using GSU email addresses only and must use professional language with relevant information (attachments, subject, etc.) included.

Do not use the email communication tool available on folio. These inboxes are not monitored regularly.

## **CLASS ATTENDANCES**

Students are expected to attend class, bring their textbooks, writing material, external storage media, etc., and are responsible for all topics covered in class.

Disruption of class (use of cell phones, playing on the computer, talking, sleeping, etc.) will not be tolerated. Students are required to turn off cell phones (no vibrate or silent modes), computers, etc. before the class begins and leave them off during class (unless they are required; with instructor's approval). A warning will be given the first time and you will be asked to leave the class on further instances.

## **CLASS TARDINESS**

Students are expected to come to class on time. A tardiness of five minutes after class start time will be allowed (if not on a regular basis). After that you will be asked to leave the class except for an emergency situation (with the instructor's approval; written documentation required).

## **STUDENT CODE OF CONDUCT**

Violations of the GSU's Student Code of Conduct (including cheating and plagiarism) are taken very seriously. Any violation of this policy will become part of the student's permanent educational record. More information on Student Conduct can be found at <http://students.georgiasouthern.edu/conduct/>.

## **ILLNESSES**

We want you to take appropriate precautions for your health as well as the well-being of your classmates. If you become ill during the term, please contact me immediately. We will work through what you will need to do, to either continue working in class or make up work that might have been missed during your absence. If you have an illness that would result in an extended absence, you will need to contact the Dean of Students office. In the event of serious illness, injury, or extenuating circumstances, the DOS office will notify professors at your request.

If you need to self-report either a confirmed or suspected positive COVID-19 diagnosis, have received self-quarantine requirements, or have symptoms with pending test results, please complete the CARES Center [COVID-19 self-reporting form](#) (through the [MyGeorgiaSouthern portal](#) under "COVID-19 Information & Resources"). You may also reach the CARES Center by using the [MyGS mobile app](#), calling 912-478-CARE (M-F 8am-5pm), or emailing [covidsupport@georgiasouthern.edu](mailto:covidsupport@georgiasouthern.edu). The CARES Center should not be used for medical advice. If you need medical advice, you need to call your health provider or 911.

## **ADA ACCOMMODATIONS**

In compliance with the Americans with Disabilities Act (ADA), this course will honor requests for reasonable accommodations made by individuals with disabilities or demonstrating appropriate need for learning environment adjustments. Students must self-disclose their disability to the Student Accessibility Resource Center (SARC) before academic accommodations can be implemented. Students requesting alternative educational arrangements must submit a completed COVID-19 Alternative Educational Arrangement Request Form to [the SARC office](#). For additional information, please call the SARC office at (912) 478-1566 on the Statesboro campus, or at (912) 344-2572 on the Armstrong and Liberty campuses.

## **FACE COVERINGS**

Georgia Southern, along with other University System of Georgia (USG) institutions, requires all faculty, staff, students, and visitors to wear an appropriate face covering while inside campus facilities/buildings where six feet social distancing may not always be possible; this includes classroom spaces. Use of face coverings will be in addition to, rather than a substitute for, social distancing. Anyone not using a face covering when required will be asked to wear one or must leave the area. Repeated refusal to comply with the requirement may result in discipline through the Student Code of Conduct. However, reasonable accommodations may be made for those who are unable to wear a face covering for documented health reasons.

**IMPORTANT DATES**

In-class Exams: During regular class hours (actual dates will be posted on the course schedule)

Academic Calendars: <http://em.georgiasouthern.edu/registrar/resources/calendars/>

Last updated: January 12, 2021