Distance Education Course Offerings

	University of Houston	Penn St. University	UC Irvine	University of Colorado	Clemson University
Purpose	State research university	a public, state research university with a mission of teaching, research, and public service	public research university	public research university	public, coeducational, land-grant and sea-grant research university
Location	Houston, TX	State College, PA	Irvine, CA	Boulder, CO	Clemson, SC
Size	39,540	98,097	28,184	32,697	21,303

Course: Math 1314 – Calculus for Business and Life Sciences

Course Description: Find regression models and using them to solve problems. Find limits, derivatives and definite integrals of functions by hand and by using technology. Solve problems applicable to business and the life sciences using limits, derivatives and definite integrals. Optimize functions of two variables.

Course Requirements:

Quizzes	14%
Poppers/Alternate	10%
Homework	10%
Test 1 (Prerequisite Test)	14%
Test 2 and Test 3	28%
Final Exam	24%
Total	100%

Grading Scale:

94 - 100 (A)
90 - 93 (A-)
87 - 89 (B+)
84 - 86 (B)
80 - 83 (B-)
77 - 79 (C+)
74 - 76 (C)
70 - 73 (C-)
67 - 69 (D+)
64-66 (D)
60 - 63 (D-)
60 Below (F)

Pertinent Information:

The class will meet in an online classroom on Tuesdays and Thursdays from 5:30 p.m. – 7 p.m. You will be able to see and hear my lectures. You will also be able to communicate with me through the class chat line. If your schedule will not allow you to attend the live sessions, a recording of it will be posted on my website AND you will need to complete an alternate assignment. Course also uses CourseWare (CASA site): casa.uh.edu and Geogebra: geogebra.org software.

Course Schedule

Assignment Number	Lessons Covered	Due Date	Due Time
Homework 1	1&2	1/27	BEFORE 11: 59 p.m.
Homework 2	3&4	2/3	BEFORE 11: 59 p.m.
Homework 3	5&6	2/10	BEFORE 11: 59 p.m.
Homework 4	7&8	2/17	BEFORE 11: 59 p.m.
Homework 5	9&10	2/24	BEFORE 11: 59 p.m.
Homework 6	11	3/3	BEFORE 11: 59 p.m.
Homework 7	12&13	3/17	BEFORE 11: 59 p.m.
Homework 8	14&15	3/24	BEFORE 11: 59 p.m.
Homework 9	16&17	3/31	BEFORE 11: 59 p.m.
Homework 10	18&19	4/7	BEFORE 11: 59 p.m.
Homework 11	20&21	4/14	BEFORE 11: 59 p.m.
Homework 12	22&23	4/21	BEFORE 11: 59 p.m.
Homework 13	24	4/28	BEFORE 11: 59 p.m.

Course: SYSEN 510: Engineering Systems Analysis

Course Description : This 3-credit course provides students with the mathematical foundation for the System Engineering Program. It will address the fundamentals of mathematical tools that are part of the System Engineering Program. The topics covered are both linear and nonlinear differential equations as well as vector and matrix algebra. Students will learn to recognize the types of differential equations and the proper method to use and to solve them. Vector algebra deals with the basics of vector spaces and matrix algebra will cover matrix manipulations.

Course Requirements:

Homework	20%
Exam 1	40%
Exam 2	40%
TOTAL	100%

Grading Scale:

93 - 100 (A)
89 - 92 (A-)
85 - 88 (B)
80 - 84 (B)
75 - 79 (B-)
65 - 69(C)
60 - 64 (C-)
50 - 59 (D)
0 - 49 (F)
60 - 66.9 (D)

Pertinent Information:

There will be discussion boards for students to discuss among themselves different aspects of the course, and I will participate in the discussions when it is appropriate. I encourage people to work together on homework assignments. Use the discussion board to post your questions and to read the responses from your classmates. Exams are on an individual basis. Any questions on exams should be directed to me. I will add information to the exams if there many students are experiencing particular problems.

Course Schedule

Week/Dates	Unit/Lesson Title	Unit/Lesson Objectives	Assignments Due
Week 1 Monday, September 1 through Sunday, September 7 (Sep.1 – Sep.7)	Introduction to Differential Equations Separable and Exact Differential Equations	Representation of derivatives Solving linear first order homogeneous differential equations Solving first order nonhomogeneous differential equations Solve differential equations using Separation of Variables method Solve using exact differential equation	Read: Chapters 1.1-1.2, 2.1, 2.2-2.2.3, 2.4, and 2.5 Homework: Page 9: Problems 1-a, 1d, 4, 5a, 5e, and 5h Page 32-33: Problems 9 and 11 Page 60: Problem 6 Page 61: Problem 12 Page 69: Problems 1c, 1f, 1i Page 70: Problems 5c, 5h Assignment is due 5PM EST on September 8, 2008.
Week 2 Sep.8 – Sep.14	Linear Differential Equations of Second Order and Higher	Linear dependence or independence Homogeneous linear ordinary differential equation with constant coefficients Understanding the total solution to linear ordinary differential equations Solution to linear ordinary differential equation with constant coefficients	Read: Chapters 3.1, 3.2, 3.3, 3.4., 3.4.2-3.4.5 Homework: Page 83: Problems 2b, 2f, 2h, 3g, 3h, 6a, and 6c Page 89: Problems 1c, 1f, 1i, 2b, and 2e Page 90: Problem 7 Pages 108-109: Problems 2b, 2n, 2o, 6b, 6c, 8b, and 8f Page 131: Problems 1c and 1g Assignment is due 5PM on September 15, 2008.
Week 3 Sep.15 – Sep.21	Non-Homogeneous Differential	Method of undetermined coefficients	**Read:** Chapters 3.7 – 3.7.2, 3.9, 5.1-5.3
Week 4 Sep.22 – Sep.28	Laplace Transforms and Differential Equations Linear Algebraic Equations	Partial Fraction Expansion Application of Laplace transforms to differential equations Special functions and applications Basics of the solutions to algebraic equations Gauss elimination and Gauss-Jordan elimination to solve	**Read:** Chapters 5.4-5.6, 8.1-8.2, and 8.3.1 **Homework:** Page 266: Problem 1d Page 267: Problems 1i, 1n, 1t, and 3 Page 274: Problems 1a, 1e, 2c, and 2d Page 275: Problems 5a and 5e Page 280: Problems 1a, 1c, 1j, 2a, and 2c Page 407: Problems 1m and 1p Page 408: Problems 6a, 6c, and 8 **Homework is due by 5PM on September 29, 2008**
Non-Homogeneous Differential Equations with Constant Coefficients Laplace Transforms	Method of undetermined coefficients System of differential equations	**Read:** Chapters 3.7 – 3.7.2, 3.9, 5.1-5.3 **Homework:** Page 148: Problems 1a, 1f, 1l, 2a, 2f, and 2q Page 170: Problems 5a, 5e, 5j, and 8 Page 254: Problems 3, 5, and 9 Page 260: Problems 1b, 1c, 1d (Use partial fraction only), 3a, 3c, and 3f **Homework due 5:00 PM on September 22, 2008** **Exam 1 will be available on September 15 and is due 5:00 PM on September 29, 2008**	

Week 5 Sep.29 – Oct.5	Vector Spaces	Understand fundamentals of vector spaces Understand the dot product and its properties Cauchy-Schwartz inequality Fundamentals of the norm, orthogonality and function spaces Bases and supspaces Dependent and independent vectors Dimensions of vector spaces Span of vectors "Best" approximations	**Read:** Chapters 9.1-9.6, 9.7-9.10 **Homework:** Page 415: Problem 5 Page 418: Problem 6 Page 421: Problems 4a and 4d Page 428: Problems 1a and 1e Page 429: Problems 6d and 9b Page 438: Problems 12c and 12e Page 443: Problem 1b, 1c, and 3 Page 447: Problem 2a, 2c, 3b, 3f and 3n Page 456: Problems 1c, 1f, 1i, 2c, and 4e Page 462: Problem 4b **Homework is due by 5PM on October 6, 2008**
Week 6 Oct.6 – Oct.12	Matrices and Linear Equations	Understand matrices and basic operations of addition and multiplication Special Matrices Partitioning transpose and determinant of a matrix Matrix rank Row and column spaces Linear equations and matrices	**Read:** Chapters 10.1-10.4, 10.5, 10.6.1 and 10.6. 4 **Homework:** Page 479: Problems 1 and 5 Page 480: Problem 10 Page 486: Problem 6 Page 493: Problems 6a and 6c Page 506: Problems 1c and 1d Page 507: Problem 11 Page 522: Problems 1c and 1h Page 523: Problems 5b and 5c **Homework due October 13, 2008** **Exam 2 handed out October 6 and due October 20, 2008.**
Week 7 Oct.13 – Oct.19	Eigenvalues and Eigenvectors	The eigenvalue/eigenvector problem Solving for eigenvalues and eigenvectors Eigenspaces	Read: Chapters 11.1, 11.2.1, 11.3.1, and 11.4 Homework: None Assigned Complete exam 2 and submit by October 20, 2008.

Course: STATS 8: Introduction to Biological Statistics (Summer Session)

Course Description : (4 units) Teaches introductory statistical techniques used to collect and analyze experimental and observational data from health sciences, molecular, cellular, environmental, and evolutionary biology. Specific topics include exploration of data, linear regression, probability and sampling distributions, basic statistical inference for means and proportions. Only one course from Statistics 8, Statistics 7, Management 7, or Social Ecology 13 may be taken for credit.

Course Requirements:

Final exam (2 hours, in person at UCI)	35%
Midterm (1.5 hour, in person at UCI)	25%
Quizzes total (online, one per lesson)	15%
Homework total (online, one assignment per lesson, graded for completion)	10%
Participation in class forums (online, graded for effort)	10%
Project (1 written home assignment)	5%
Total	100%

Grading Scale:
88 - 100 (A)
78 – 87.9 (B)
68 – 77.9 (C)
58 – 67.9 (D)
0 – 57.9 (F)

Pertinent Information:
Office hours and modality: live WebEx sessions – Time TBD based on class survey

Orientation Week ("Week 0")

Orientation	Get acquainted and ready to go
Objectives	By the end of this orientation week, students should be able to: > Navigate around the course site (both on Moodle and on StatsPortal) > Post their self-introduction to a discussion forum on Moodle > Describe the contents of the course syllabus
Assignments	None

Week 1

Lessons No.	1, 2, 3
Lesson 1	Descriptive Statistics - PSLS Chapter 1
Lesson 2	Descriptive Statistics - PSLS Chapter 2
Lesson 3	Correlation, Regression - PSLS Chapters 3 and 4
Method of Instruction	> Read textbook or view Stats Tutor for the corresponding chapters on StatsPortal > View/complete Review & Practice lessons on Moodle
Assignments	> Homework and quizzes for lessons 1, 2, and 3 on StatsPortal > Help forums for lessons 1, 2, and 3 on Moodle

Week 2

Lessons No.	4, 5, 6
Lesson 4	Producing Data - PSLS Chapters 7 and 8
Lesson 5	Probability - PSLS Chapters 9 and 10
Lesson 6	Normal distributions - PSLS Chapter 11
Project	Project description - No reading or assignment due yet
Method of Instruction	> Read textbook or view Stats Tutor for the corresponding chapters on StatsPortal > View/complete Review & Practice lessons on Moodle
Assignments	> Homework and quizzes for lessons 4, 5, and 6 on StatsPortal > Help forums for lessons 4, 5, and 6 on Moodle

Week 3

Lessons No.	7 and 8
Midterm	In person (at UCI or other testing center) - Time and place listed on Moodle
Lesson 7	Sampling Distributions - PSLS Chapter 13
Lesson 8	Introduction to Inference - PSLS Chapters 14 and 15
Method of Instruction	> Read textbook or view Stats Tutor for the corresponding chapters on StatsPortal > View/complete Review & Practice lessons on Moodle
Assignments	> Homework and quizzes for lessons 7 and 8 on StatsPortal > Help forums for lessons 7 and 8 on Moodle

Week 4

Lessons No.	9, 10,and 11
Lesson 9	Inference for a Population Mean - PSLS Chapter 17
Lesson 10	Inference for Two Population Means - PSLS Chapter 18
Lesson 11	ANOVA - PSLS Chapter 24
Method of Instruction	> Read textbook or view Stats Tutor for the corresponding chapters on StatsPortal > View/complete Review & Practice lessons on Moodle
Assignments	> Homework and quizzes for lessons 9, 10, and 11 on StatsPortal > Help forums for lessons 9, 10, and 11 on Moodle

Week 5

Lessons No.	12 and 13
Lesson 12	Chi-square Test for Goodness of Fit - PSLS Chapter 21
Lesson 13	Chi-square Test for Two-Way Tables - PSLS Chapter 22
Method of Instruction	> Read textbook or view Stats Tutor for the corresponding chapters on StatsPortal > View/complete Review & Practice lessons on Moodle
Assignments	> Homework and quizzes for lessons 12 and 13 on StatsPortal > Help forums for lessons 12 and 13 on Moodle > Project due by Friday 1pm (Pacific time) in the project submission box (online)

Finals Week

Final exam - In person (at UCI or other testing center) - Time and place listed on Moodle

Course: Climate Instruction 101: Essential Knowledge and Teaching Strategies

Course Description : Provides both content and experiential learning opportunities. We will provide content support for everyone on the seven Essential Principles of Climate Science. will tap. Concepts of climate science are found in science education standards and benchmarks, but have not traditionally been emphasized as much as related concepts, like weather. We will have one large group weekly telecom/webinar about the weeks' topics, upcoming homework, and other information for that week. The experiential learning component of this course will occur online in small groups formed around similar teaching needs and similar climate regimes.

Course Requirements:

Module 0:	10%
Modules 1 through 8: 5% each for a total of	40%
Lesson Development, Enactment and Reflection:	45%
Lesson Walkthrough:	5%
Total	100%

Grading Scale:

94 - 100 (A)
92 - 94 (A-)
90 - 92(B+)
82 - 90 (B)
80 - 82 (B-)
78 - 80(C+)
72 - 78 (C)
70 - 72 (C-)
68 - 70 (D+)
62 - 68 (D)
60-62 (D-)
0-62 (F)

Pertinent Information:

Small groups will collaboratively work on lessons around similar topics. While each teacher will be responsible to produce their own lesson, deliver it in their classroom and reflect on the experience.

Course Schedule

Week	Date Posted	Activity or Module	Completion Date (Due Date)
1	August 26	0: Self-Assessment: Content knowledge, classroom context, lesson plan ideas. Purpose to determine personalized learning plan and to assign small group assignments. Participants draft list of what **they** need to know and be able to do.	Sept 1
2	September 9	No class meeting September 2 due to Labor Day Holiday. Instructors will set up small groups based on similar teaching needs September 4-8. Module 1: How scientists know what they know, evidence-based instruction Review EP 5 Our understanding of the climate system is improved through observations, theoretical studies, and modeling. Lesson prep: Small groups brainstorm topics, write reflections on NOS, use of data, evidence and inquiry.	September 15
3	September 16	Module 2: EP1 Sun/Energy Balance Alignment with standards and curriculum Understand EP1 and anticipate difficult concepts for students. Lesson prep: Identify local elements of the topic of the lesson, establish standards alignments, learning objectives, draft initial ideas for lesson plan, and outline summative assessment ideas.	September 22

4	September 23	*Module 3:* EP2 Complex interactions within the climate system Understand EP2 and anticipate difficult concepts for students. Lesson prep: Finding and identifying high quality resources. Small groups start populating lesson plan template, identify list of resources to draw from.	September 29
5	September 30	*Module 4:* EP3 Life on Earth depends on, is shaped by, and affects climate. Understand EP3 and anticipate difficult concepts for students. Lesson prep: Review common misconceptions related to lesson plan topics and develop strategies to address these within instruction.	October 6
6	October 7	*Module 5:* EP 4 Climate varies over space and time through both natural and man-made processes. Lesson prep: Detail formative and summative assessments that will be used to determine student learning.	October 13
7	October 14	*Module 6:* EP6: Human activities impact the climate system Lesson planning: Assess the likelihood of controversy or resistance from students or community. Develop plan to forestall or address any controversy.	October 20
8	October 21	*Module 7:* EP7 Climate change will have consequences for the Earth system and human lives. Lesson planning: Identify local experts and make connections with local communities.	October 27
9	October 28	*Module 8:* Guiding Principle for Informed Decisions: Humans can take actions Incorporate solutions and decision-making into instruction. How to integrate social aspects such as economics, values, justice?	November 3

Course: ECE-202-400 Electric Circuits I (Summer I)

Course Description: The goals for this course are to provide the student with an understanding of, and a proficiency in the analysis of, electrical circuits containing both active and passive components under both steady state and dynamic (time varying) conditions. These goals will be accomplished by studying and applying the following topics:

* Active component models (sources), both independent and dependent.
* Passive component models: Resistors, Capacitors, Inductors, Switches.
* Power and Energy relationships.
* Network Laws: Ohm's law, Kirchhoff's voltage and current laws.
* Nodal and Mesh analysis techniques.
* Thevenin's and Norton's theorems. Superposition.
* Transient response of RL, RC, and RLC circuits.
* Phasors in the analysis of sinusoidal circuits.

Course Requirements:

Homework	5%
3 Exams (20% each)	60%
Final Exam	35%
Course Grade	100%

Grading Scale:

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

Pertinent Information:

ECE-202 is an On Line course this summer. All materials, except for the textbook, will be provided on Blackboard. Homework due dates and procedures for submission will be posted on Blackboard. Procedures for taking On Line exams will be sent to the class via e-mail, as well as being posted on Blackboard.

TOPICAL OUTLINE and SCHEDULE

Day	Date	Text Coverage	Material
Tu	5/14	Chap. 1, pp. 2-18	Voltage, Current, Power, Energy
W	5/15	Chap. 2, pp. 24-36	Sources, Ohm's Law, Circuit Models
Th	5/16	Chap. 2, pp. 37-42	Kirchhoffs Laws
F	5/17	Chap. 2, pp. 42-48	Kirchhoffs Laws, Dependent Sources
M	5/20	Chap. 3, pp. 56-64	Series & Parallel Resistors, Dividers
Tu	5/21	Chap. 3, pp. 64-69	Dividers, Voltage & Current Meters
W	5/22	Chap. 3, pp. 69-76	Wheatstone Bridge, A-Y Circuits
Th	5/23	Chap. 4, pp. 88-96	Node-Voltage Analysis
F	5/24	Exam #1	Chapters 1, 2, and 3
M	5/27	Chap. 4, pp. 96-103	Supernodes, Mesh-Current Analysis
Tu	5/28	Chap. 4, pp. 103-109	Mesh-Current Analysis, Comparison
W	5/29	Chap. 4, pp. 109-119	Source Transformations, Thevenin & Norton Equivalents
Th	5/30	Chap. 4, pp. 120-129	Max Power Transfer, Superposition
F	5/31	Chap. 6, pp. 174-186	Inductors, Capacitors
M	6/3	Chap. 6, pp. 187-189	Series and Parallel L's and C's
		pp. 200-203	Summary & Review
Tu	6/4	Exam #2	Chapter 4
W	6/5	Chap. 7, pp. 212-224	RL & RC Circuits, Natural Response
Th	6/6	Chap. 7, pp. 224-231	RL and RC Step Response
F	6/7	Chap. 7, pp. 231-240	General Solution Sequential
		pp. 245-246	Switching, Summary & Review
M	6/10	Chap. 8, pp. 264-279	Parallel RLC Natural Response
Tu	6/11	Chap. 8, pp. 280-289	Step Response, Series RLC Response
		pp. 294-298	Summary & Review
W	6/12	Chap. 9, pp. 306-317	Sinusoidal Response, Phasors
Th	6/13	Exam #3	Chapters 6, 7, and 8
F	6/14	Chap. 9, pp. 317-328	Impedance, Kirchhoffs Laws Again, Series and Parallel Impedances
M	6/17	Chap. 9, pp. 329-334	Thevenin Equivalents, Node-Voltage & Mesh Analysis in AC Circuits
Tu	6/18	Class Notes	Review & Study
W	6/19		Study Day at Clemson

Thursday 6/20 Final Exam Time: TBA

Note: Actual schedule may vary slightly depending on class progress.