CIVE 202 NUMERICAL MODELING AND RISK ANALYSIS

Instructor	Peter A. Nelson Engineering B212, 491-5247 peter.nelson@colostate.edu			
Office Hours	Tuesdays 9:30-10:50, Thursdays 12:00-1:30 Or by appointment			

Teaching *Assistants*	Erick Ritter Engineering A207C eritter@rams.colostate.edu	Aaron Baukus Engineering A207C abaukus@rams.colostate.edu
Office Hours	Mon 10:30-12:00, Wed 12:00 – 1:30	Mon 2:00 – 3:30, Thu 9:40 – 11:00

Textbook   None

Grading

Lecture		Lab	
Homework Assignments	20%	Project 1	10%
Midterm Exam	25%	Project 2	10%
Final Exam	25%	Project 3	10%

Plus/minus grading will be used

Homework   Assigned weekly on Canvas, and submitted as Excel files on Canvas
Excel template will be provided, must <u>follow template</u> to build solution
Show your work and clearly identify your answers
Due on Mondays at 7 pm, late homework is <u>not</u> accepted
Solutions are posted on Canvas after due date
Lowest homework grade is not included when calculating your overall homework grade

Exams   Midterm exam is given during the lecture period
Final exam is given during the scheduled final exam period
Final exam covers only the second half of the course
Make-up exams are given only for <u>extreme</u> cases
One 8.5 in by 11 in crib sheet (printed or handwritten) is allowed for each exam

Projects   Three laboratory projects assigned on Canvas
Excel template will be provided, must <u>follow template</u> to build solution
Submit completed Excel file on Canvas by deadline
Late projects can be emailed to the instructor for <u>partial</u> credit (< 24 hr late, maximum of 67% credit; 24-48 hr late, maximum of 33% credit; > 48 hr late, no credit)

Academic
Integrity   Course adheres to the CSU academic integrity policy found in the general catalog (p. 7) and the Student Conduct Code
All course submissions <u>must be your own individual work</u> (every cell, every line of code, and every word of text must be written individually)
Providing your homework solution to someone is <u>not</u> allowed, but discussion with others is allowed
See academic integrity link on Canvas for more information

Subject	Class	Topic
Course Introduction	8/23	Course Objectives
	8/25	Modeling Introduction
	Lab	*None*
Simulation Modeling	8/30	Development of Simulation Models
	9/1	Excel: Data Entry Control
	Lab	*Project 1: Simulation Model*
	9/6	Excel: Visual Basic Introduction
	9/8	Excel: Visual Basic Statements
	Lab	*Project 1*
	9/13	Excel: Data Management
	9/15	Excel: Results Visualization
	Lab	*Project 1*
	9/20	Assessing System Performance
Optimization Modeling	9/22	Optimization
	Lab	*Project 1*
	9/27	Excel: Goal Seek and Solver
	9/29	Excel: Solver Macros, Super Macros
	Lab	***Project 1 (Due Thursday, September 29)***
	10/4	Excel: User Form Introduction
	10/6	Excel: User Form Controls
	Lab	*Project 2: Optimization Model*
	10/11	Review
	10/13	**Midterm Exam (Thursday, October 13)**
	Lab	*Project 2*
Single Random Variables	10/18	Discrete Variables
	10/20	Continuous Variables
	Lab	*Project 2*
	10/25	Theoretical Distributions
	10/27	Generating Samples
	Lab	*Project 2*
	11/1	Descriptive Statistics
	11/3	Fitting Distributions
	Lab	***Project 2 (Due Thursday, November 3)***
Multiple Random Variables	11/8	Intersections and Unions
	11/10	Conditional Probability
	Lab	*Project 3: Stochastic Model*
	11/15	Joint Distributions
	11/17	Covariance and Correlation
	Lab	*Project 3*
		Fall Break
	11/29	Linear Regression
	12/1	Nonlinear Regression
	Lab	*Project 3*
Course Conclusion	12/6	Review
	12/8	Review
	Lab	***Project 3 (Due Thursday, December 8)***
Final Exam (Wednesday, December 14, 6:20 pm – 8:20 pm)		