UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS

INFO 3350-1/STAT 4350-1: Statistical Computing

Term and Credits:

Summer 2017

4 Credit Hours

CRN: 1790/1791

Time and Location:

M/W 3:20-5:25pm in DCB 120
Face-to-Face Class Days:
June 19, 21, 26, 28 July 12, 17, 19 Aug 7, 9, 14, 16

You will be required to review some material outside of class which will be delivered through Canvas. Make sure you have a good internet connection during class for access to Canvas and Top Hat.

Instructor:

Name: Kellie Keeling

Department: Business Information & Analytics

Office Location: DCB 590

Office Hours: M/W 2:00-3:15 Selected Days

Virtual Office Hours:
https://udenver.zoom.us/my/kelliekeeling
(Log in to see if I am in – or email meeting request)

Email: kkeeling@du.edu

Office Phone: 303-871-2296 (forwards to my cell)

Communication Conduct:

Feel free to refer to me as Dr. Keeling, Professor, or Kellie as you feel comfortable.

Email is usually the best way to contact me. If I haven't responded in 36 hours, feel free to resend your message.

I will send class level communications via Canvas announcements. I will typically initiate communication with individual students directly through your DU email or through Canvas email.

My open office hours times are available on the home page in Canvas under "My Office Hours." To specifically make an appointment with me, click that link which goes to http://doodle.com/kkeeling which will allow you to request an appointment time. If there is an open time, you can also just stop by.

COURSE DESCRIPTION:

This course will provide the student with a base of skills necessary to program in the SAS and R software packages. No prior programming knowledge is required. After completion of the course the student will be able to independently perform most basic statistical procedures using either software package. The student will also have the tools necessary to learn advanced topics from SAS and R documentation by themselves.

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PREREQUISITES: INFO 2020 or INFO 4610

LEARNING OUTCOMES:

By the end of this course, students will be able to

1. Be able to perform basic and advanced data management tasks using SAS and R including reading and writing data, cleaning, and reshaping datasets.
2. Be able to perform basic exploratory and statistical analyses with SAS and R, including graphical displays.
3. Be able to present reports and results in R using R markdown.
4. Be able to find help in order to learn additional SAS and R functions in the future.

REQUIRED MATERIALS:

- Software
  - SAS University Edition
  - R Studio and R
- Top Hat – Polling Software ($26-$38) – look for email inviting you to course

GRADING STRUCTURE, SCALE, AND ASSESSMENT POLICIES:

GRADING STRUCTURE:
Performance will be evaluated on the items below. For this class, all assignments assume you are trainees for Stats Dairy. Your training score is only a measure of your performance in this class and does not reflect my opinion of you as an individual or your worth as a person.

4 Statistical Briefs (2 for each Module)	25%
SAS Project	25%
R Project	25%
Informal In Class Assessments (Mini Assign/Top Hat)	25%

GRADING SCALE:
Stats Dairy regularly hires more trainees than it needs. By means of this course we determine where to place the graduates of the program:

90% - 100%	A	Trainees who receive an A are considered on the "fast track" and will start out as data mining analysts. Our studies show that most trainees who fall in this group reach an executive position within 10 years.
80% - 89%	B	Trainees who receive a B will start out as assistant data mining analysts. This does not mean that they cannot reach the executive level but it will be more difficult since they will not regularly be put into career-enhancing positions such as overseas consulting assignments.
70% - 79%	C	Trainees who receive a C will be put into staff positions for further development.
60% - 69%	D	Trainees who receive a D will be offered non-management positions.
00% - 59%	F	Trainees who receive an F will be separated from Stats Dairy.

A: 93-100%; A-: 90-92.9%; B+: 87-89.9%, B: 83-86.9%; B-: 80-82.9%; etc.
ASSESSMENT POLICIES:
You may talk with others and get advice about the approaches to solve the problems, but **DO NOT SHARE COMPUTER FILES** – this work should be completed on your own. If I feel you turn in work that is not your own, I will turn you in to DU Honor Code.

- **Statistical Briefs** – each module will have two individual assignments that will cover material from half of the Lessons in the module. You should be able to start the brief before completing all the lessons, but some parts will come from the final lessons.
    - Late Work Accepted with 10 points penalty per day

- **Projects** – there will be two individual projects – one covering SAS and one covering R - and instructions will be delivered through Canvas later in the quarter. You will collect and analyze a dataset of your choice.
    - Late Work Accepted with 10 points penalty per day

- **Informal In-Class Assessments**
    - **Mini Assignment Progress** – each class lesson will have a mini assignment that will supplement the material for that class. You will submit your assignment and answer some multiple choice quiz questions. Once you submit your version, you will be able to see my solution to the assignment to grade your own work. The multiple choice quiz questions will comprise about half of your score and the rest will be based on your effort to complete the assignment.These will be due at the end of the following class day.
    - **Top Hat** – If you attend the face-to-face class, you will complete these during class. Otherwise you will complete them outside of class and they will be due at the end of the following class day.

Class Schedule

Due to the work schedule of some students during the summer, this course is being offered in a hybrid and online format. We will have 11 face-to-face class sessions and the rest of the sessions will be presented online. All materials presented during face-to-face classes will also be available online.

The tentative schedule for the summer is on the following page:

		MON	WED
Module 1: SAS			
SAS 1	Getting Started with SAS/ Reading SAS Datasets/ Reading Other Datasets/SAS Syntax	June 19	June 21
SAS 2	Statistical Analyses with SAS/ Validating, Cleaning, Manipulating Data	June 26	June 28
SAS 3	Enhancing and Producing Summary Reports/ Combining SAS Datasets	July 3(**HOLIDAY)**	July 5
SAS 4	Combining Datasets/ Graphing with SAS/Graph/ Summarizing Data/ Using the SQL Procedure	July 10	July 12
Module 2: R			
R 1	Getting Started with R/R Studio/ Basic Capabilities in R/	July 17	July 19
R 2	R Markdown | Statistical Analysis with R / Ethics in Statistical Analysis/ Data Manipulation in R	July 24	July 26
R 3	Graphics in R/ Loops and Conditional Statements	July 31	Aug 2
R 4	R Functions and More Graphs/ Data Manipulation	Aug 7	Aug 9
R 5	Creating R Packages/ R Shiny Presentations	Aug 14	Aug 16

UNIVERSITY EXPECTATIONS, POLICIES, AND RESOURCES:

Students with Disabilities. A student who qualifies for academic accommodations because of a disability must submit a Faculty Letter to the instructor from the DU Disability Services Program (DSP) in a timely manner, so that the needs of the student can be addressed. Accommodations will not be provided retroactively, e.g., following an exam or after the due date of a project. DSP determines eligibility for accommodations based on documented disabilities. DSP is located in Ruffatto Hall, 1999 E. Evans Ave. (303-871-2278).

University Expectations. Please review the University Expectations on the Daniels College of Business syllabus webpage (http://daniels.du.edu/university-expectations/)

- University of Denver Honor Code
- Policy Concerning Official Communication
- Students with Disabilities
- Policy Concerning Religious Accommodations
- Policy Concerning Emergency Procedures
- Policy Concerning Conflicts of Interest, Including Gifts from Students