# Rules for Exam 1:

**Exam 1 Guide**

IST 3420, Spring 2021

1. Exam 1 is 60 minutes long and will be conducted on Canvas on **Feb 24 during our normal class time**. Try to log in Canvas at least 5 minutes before the exam starts and make sure you have good internet connection.
2. The exam is a closed book exam. Textbooks, notes, internet, electronic devices, and other references are **NOT** allowed to be used during the exam.
3. We will use Proctorio for remote proctoring for our online exams. Google Chrome on a laptop or desktop computer, a microphone, webcam, and a stable internet connection will be needed to take exam 1. More details are available at <https://keeplearning.umsystem.edu/students/learning-remotely/taking-proctorio-tests>

# About the Exam

1. The exam contains three kinds of questions: (1) multiple selection; (2) programming syntax, and (3) short answers.
2. Use the exam guide to guide your review of the course content, slides, reading materials, r scripts, and lab assignments.
3. During the exam, use your time properly. If you get stuck in one question, you need to move on and come back later.

# Coverage of Exam 1

**Note: The exam may cover other questions NOT mentioned on this guide.**

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| **Module** | **Content to Cover** |
| #1: Introduction to Data Science and Management | * Understand important concepts related to business analytics and data science * Understand different types of analytics * Understand data science/analytics process * Understand ethic issues in data science |
| #2: R Programming | * Learn basic R knowledge * Get familiar with RStudio * Be able to apply basic data structures in R * Understand the concepts of control structures and be able to use them in R programming * Be able to define functions for code reuse * Get familiar with R Markdown |
| #3: Data Basics | * Be able to distinguish among different scales of measurement * Be able to install and load proper packages to collect data * Be able to read and get necessary data from CSV files * Be able to use RSQLite to import flat files, connect to RDBMS * Be able to use XML, RCurl, and httr to scrape data from the Internet * Understand XPath * Be able to use rjson to access JSON data * Understand the process of retrieving data via APIs |