

Syllabus for Semester **Spring 2018*****To reflect final quests' dates*****Department of Labor Studies and Employment Relations - Rutgers University****A. 38:578:503:01 Problem Solving Tools at Work**

B. Course Description: Overview of data collection and analysis; focus on fundamentals needed to understand the research of others or to collect surveys oneself. The interpretation of common statistics; the use of graphing software; correlation analysis and regression.

C. Course Objectives -Labor Studies and Employment Relations Department:

- Access high-quality historical, qualitative, and quantitative evidence or research (Goal 5).

School of Management and Labor Relations:

- Demonstrate an ability to collect, analyze and synthesize information to make logical and informed decisions impacting the workplace. Use evidence to evaluate hypotheses, theories and approaches to workplace issues (Goal III).

D. Meeting Times: **Thursday, 7:20 – 10:00 PM****E. Meeting Location: C/D, LEC (Labor Education Center), Room 133**

<http://rumaps.rutgers.edu/location/labor-education-center>

F. Professor: Sheila M. Lawrence, Ph.D.**G. Email ID:** smlawren@smlr.rutgers.edu

H. Office Hours: In the James Carey Library, in the building, prior to class, roughly from 3:00-4:00 PM and after class, or by appointment; if you attend my other class's office hours, please e-mail me so that I am best prepared;

I. Text: (Edition 1 or 2 is fine.) Evans and Lindsay, **An Introduction to Six Sigma and Process Improvement**, Cengage, 2015, 978-1-133-60458-7 (**Assorted handouts for statistics topics**)

J. Excel: **Excel Work can be done at the library or the computer labs.** If you do not have a help option, your version of Excel, Excel Light, or the student version, as well as open source software does not have Data Analysis. Further details are in part Z3 below.

K. Special Needs – Rutgers, the State University of New Jersey abides by the Americans with Disabilities Act of 1990, the Americans with Disabilities Act Amendments (ADAA) of 2008, and Sections 504 and 508 which mandate reasonable accommodations be provided for qualified students with disabilities and accessibility of online information. If you have a disability and may require some type of instructional and/or examination accommodation, please contact me early in the semester so that I can provide or facilitate in providing accommodations you may need. If you have not already done so, you will need to register with the Office of Disability Services, the designated office on campus to provide services and administer exams with accommodations for students with disabilities. Here are the particulars:

[Lucy Stone Hall](#), Livingston Campus, 54 Joyce Kilmer Ave., Suite A145, Piscataway, NJ 08854-8045

E-mail Address: dsoffice@rci.rutgers.edu **Phone:** (848) 445-6800 • **Fax:** (732) 445-3388

I look forward to talking with you soon to learn how I may be helpful in enhancing your academic success in this course.

L. **Assessments:** This class is hands-on and features assessment of projects and Take Home Exams, rather than a lecture course that uses exams to assess learning. Course assessment is calculated as a weighted average of the following projects:

M. **Grades:** Detailed project specifications are under separate cover. Please post final documents onto the Assignments Folder on Sakai.

N. **Lecture Schedule:** The following is an approximate lecture schedule. Project due-dates are tentative until confirmed. Assignments and readings represent the material to be covered during that class session. Students are expected to complete the readings and assignments on the syllabus prior to the class date on which they are listed.

Week #	O. Tentative Dates (per guest lecturers' availability)	Six Sigma Topic	Problem Solving Tools (on Sakai)	Statistics Topics (Varies on Sakai by Guest)
1	Jan. 18	Ch-1 Foundations of Six Sigma: Principles of Quality Management	Overview Intro: #A Pareto Analysis (Intro) Intro: #B Leadership Self Assessment	Starbucks Case Study Levels of Measurement <u>Assignment of States for College Data Analysis Project</u>
2	Jan. 25	Ch-2 Principles of Six Sigma Read PPTs "Pareto Made Simple" on Sakai, Resources, Folder #4, Project A, Pareto Project	Intro: #A Pareto Analysis (cont) – Data Collection Due Intro: #C College Data Analysis (CDA) (Intro)	Excel Checklist; Note: Mac users need access to Excel 2016/Data Analysis. Descriptive Statistics
3	Feb. 1	Please go to Sakai under Resources under Guest Lecturers, CTAAR Excel Workshop.	If you have a PC or MAC, please download the Special Excel file for the Excel Workshop. Please watch the two YouTube videos on Pivot Then please download your CDA file, with Part 1A completed, as it will be used in the workshop.	Guest – Marcie from CTAAR – Excel Workshop
4	Feb. 8	--	Intro: #D Survey Design Project	Writing Tips

5	Feb. 15		Intro: #C College Data Analysis (CDA) (cont)	Guest – Jim August on Problem Solving 5-6:55 PM
6	Feb. 22	Ch-3 Project Organization, Selection and Definition	Intro: #E Cause and Effect Diagram	Charting
7	Mar. 1		Intro: #J - Deming Project - TBD	Guest: Mike Kanarek on Baldrige Award; Deming
8	Mar. 8	Ch-4 Process Measurement	Intro: #F Website Quality Assurance (QA)	Confidence Interval
	Mar. 15	Spring Break	-	No class!
9	Mar. 22	Ch-5 Process Analysis	Intro: #G Process Map	Correlation
10	Mar. 29	Ch-6 Process Improvement	Intro: #H Interrelationship Diagram	Regression
11	Apr. 5	Ch-7 Process Control	Intro: #I Force Field Analysis	Guest – K. Amron on Six Sigma
12	Apr. 12	Ch-8 Design for Six Sigma Ch-9 Design for Six Sigma – Optimization and Verification	<u>Please bring your drafts for my review.</u>	Excel Project – Open Session
13	Apr. 19	-	-	Time for Completing CTAAR Survey by cell phone Guest: Mike Kanarek: 7 Step Improvement Cycle Workshop
14	Apr. 26	Ch-10 Implementing Six Sigma	<u>Catch Up;</u> <u>Intro: #K - House of Quality – TBD</u> <u>Bonus</u>	Time for Completing CTAAR Survey by cell phone Six Sigma PPTs - 10 Implementation Myths of Six Sigma; - 10 Tips for Finishing a Six Sigma Project Successfully; - Larry the Golfer - Six Sigma Case Study; Starbucks

Sorted by Target Due Dates						
* Note: Except for College Data Analysis, all projects are to be uploaded to the Assignments Folder and are to be submitted in paper form per the respective due date.						
Target Due Dates	Project	Group vs Individual	In-Class or at Home	Weight	Week Due	Target Due Dates
B	Leadership Self-Assessment	Individual	Start In-Class	6%	3	02-01-2018
A	Pareto Analysis	Individual	Start In-Class	10%	5	02-15-2018
D	Survey Design Project	Individual	Start In-Class	10%	6	02-22-2018
E	Cause and Effect Diagram	Group	Start In-Class	5%	8	03-08-2018
F	Website QA	Individual	At Home	10%	9	03-22-2018
G	Process Map	Group	In-Class	5%	9	03-22-2018
H	Interrelationship Diagram Project	Group	In-Class	5%	11	04-05-2018
I	Force Field Analysis	Group	In-Class	5%	12	04-12-2018
C	College Data Analysis *	Individual	Start In-Class	30%	14	04-26-2018
J	Attendance & Participation	Individual	In-Class	5%	14	04-26-2018
K	Two Concepts	Individual	In-Class	2%	14	04-26-2018
M	Guests (as scheduled)	Individual	In-Class	3%	14	04-26-2018
L	Deming Project	Group	Start In-Class	2%		
N	House of Quality	Group	In-Class	2%		
	Total			100%		
* No paper copy needs to be submitted. Please post under the Assignments Folder.						

P. Attendance: Attendance is of critical importance. It is essential to keep up with the class material. Attendance will be taken in each class. If a student misses/will miss a class, then the student needs to send a courtesy e-mail message to the professor.

Q. Required: Statistical software in Excel 2007 (or higher). Reading assignments must be completed prior to each lecture. **Communication Devices:** No communication devices (cell phones, palm pilots, beepers, pagers, etc.) can be used in the classroom.

R. Assessment:

Posting of Grades: please check MyRutgers for your final grades.

Assessment Policy:

Letter Grade	Scores Based on Course Components
A	90-100
B+	85-89
B	80-84
C+	75-79
C	70-74
D	60-69
F	< 60

Note: The thresholds for final letter grades will be re-scaled if a conventional standard seems unreasonable.

S. Academic Integrity: All students are responsible for locating, reading, and abiding by the University Policy on Academic Integrity for Undergraduate and Graduate Students. The policy is available on-line at <http://cat.rutgers.edu/integrity/policy.html>

T. Recommendations: Requests for recommendations must be made in writing after completion of the course.

U. Take Home Assignments: The College Data Analysis project has been posted on Sakai under Resources. It must be handed in on time in its entirety. The submission must be complete; no partial assignment can be submitted. **It must be posted to the Assignments Folder.**

All other individual assignments require paper copy submission, with uploads to the Drop Box.

V. Communication:

1. NETID Needed

Rutgers uses the Sakai system. In order to use this system, you must have a NETID and PW. A NETID is an account on one of the main systems at Rutgers (Pegasus, Eden, Andromeda or RCI).

- **If you have a NETID**, you can currently ensure that you will be able to login to the system.

2. Sakai

To facilitate class learning, please access and print course documents needed for class from the course management system known as Sakai. Course documents are posted in folders under Resources.

Quick Start for Sakai:

<https://sakai.rutgers.edu/access/content/public/quickmember.html>

Sakai website:

<http://sakai.rutgers.edu/portal>

If you do not see this course listed, then the site is likely in the “More” dropdown box to the right of your tabs. You can rearrange the order of your sites or hide sites from previous semesters by using the Preference tool in My Workspace and clicking on the “Customize Tabs” action button.

W. Student E-Mail and Phone Numbers:

a. A student can forward mail from his/her Rutgers e-mail address to a preferred e-mail address. Go to <http://www.eden.rutgers.edu/tools.php> and click on forwarding. Enter your NetID and PW. Then fill in your preferred e-mail address.

Cautions: Hotmail has problems with e-mails with attachments. Also, some corporations spam e-mails with attachments.

- If you have any problems, please contact your local RUCS helpdesk at help@nbcs.rutgers.edu

b. Students, also, have the responsibility to then inform the professor of any changes to their phone numbers (day and evening). Please use “**38:578:503**” in the Subject section to avoid being spammed.

Please sign your full name in all e-mail correspondence. DO NOT REPLY ALL or Select ALL: Sakai Mail Tool; If you click on Select ALL or Reply ALL, then every department staff member, instructors, teaching assistants and registered students associated with the course, will receive your correspondence.

c. Please check your e-mail regularly, especially on the day of class, to learn if there are any changes in the class schedule, class requirements, or for other general announcements.

X. Study Groups: Forming study groups will facilitate learning by keeping you focused, involved, and current in the course.

Y. Classroom Etiquette: Common courtesy is expected at all times.

Z1. Parking Impacts: Special events may impact parking.

Z2. University/Campus Closings: 732-932-INFO (New Brunswick);
<http://campusstatus.rutgers.edu>

Z3. Excel Work can be done at the library or the computer labs. If you do not have a help option, then your version of Excel, Excel Light, or the student version, as well as open source software does not have the Analysis Toolpak/Data Analysis.

Excel and Data Analysis – They are available in the Rutgers Computer Labs.

- Additional suggestions:

Purchase Microsoft Office and Windows software at University discount prices on

- <http://software.rutgers.edu>
- Log in with your RU NetID
- On the panel on the right, select MS Software for Personal Use, scroll down to view the Microsoft offerings
- You can pay with a personal check or credit card

For PC: Install the Excel Analysis Pack for additional statistical and analytical tools

- From the Office Button, select Excel Options and Add-Ins
- In the inactive application section, select Analysis Tool Pack and hit GO and OK to install
- Use the Analysis Tool Pack from the Data Ribbon, Data Analysis option

The Analysis Tool Pack includes histograms, regressions, sampling data, Fourier analysis, et. al, and also includes several randomization functions, such as RAND and RANDBETWEEN

• MAC Users - Microsoft Excel 2016 Analysis ToolPak

<https://support.office.com/en-sg/article/Load-the-Analysis-ToolPak-in-Excel-2016-for-Mac-617afc33-4af8-4530-b132-7b4e938890d0?ui=en-US&rs=en-SG&ad=SG&fromAR=1> here is the link on how to use the ToolPak with Excel 2016

- **For Home and Office 365, to upgrade to Office 2016**

For Home and Office 365, go to the Office My Account page. Click Language and install options. Click Additional install options. Open the Version drop-down menu and select the 32-bit or 64-bit Office 2016 Preview. This will install the Office 2016 Preview on your device. You will stay on the Office 2016 Preview track until you uninstall the Office 2016 Preview or until Office 2016 is released.

Z4. Student-Wellness Services:

Just In Case Web App

<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

Counseling, ADAP & Psychiatric Services (CAPS)

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ rhscaps.rutgers.edu/

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

Violence Prevention & Victim Assistance (VPVA)

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / vpva.rutgers.edu/

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

Disability Services

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

Scarlet Listeners

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

Note: This course outline/syllabus is subject to change at the discretion of the instructor.