

Syllabus for Semester **Summer 2017**

Department of Labor Studies and Employment Relations - Rutgers University

A. **38:578:503:0H6 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. LSER Objective: Access high-quality historical, qualitative, and quantitative evidence or research

D. Meeting Times: **Mondays/Wednesdays, 6:00 – 9:40 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. **Human Subjects Certification** – Certification for IBR (Institutional Review Board (Report ID 19037103)) was awarded to me on March 15, 2016 through the Collaborative Institutional Training Initiative (CITI Program) here at Rutgers.

G. Email ID: smlawren@scarletmail.rutgers.edu

H. Office Hours: **In our classroom (or Carey Library), prior to class from 5:00 – 6:00 PM**

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. 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.

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

L. 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.

M. 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.

Summer Session

Week #	N. Tentative Dates, per guest lecturers' availability	Six Sigma Topic	Problem Solving Tools (on Sakai)	Statistics Topics (Varies on Sakai by Guest)
1	July 10	Ch-1 Foundations of Six Sigma: Principles of Quality Management	Overview Intro: #A Pareto Analysis – <u>must have at least one week of data in an Excel file for June 6 workshop, per Table 1 in the Excel Pareto Chart Version C in Resources, Project C</u> Intro: #B Leadership Self-Assessment	Starbucks Case Study Levels of Measurement <u>Assign States</u> Excel Checklist – Review Document in Chapter 1 Folder prior to class.
2	July 12	Ch-2 Principles of Six Sigma	Intro: #C College Data Analysis Intro: #D Website Quality Assurance (QA)	Descriptive Statistics <u>Writing Tips</u>
3	July 17	--	-- Intro: #A Pareto Analysis Intro: #E Survey Design Project	Bring your PCs/Macs and your one week of data in Table 1 of the Pareto Project
4	July 19	--	Excel Workshop: <u>Bring your PCs/Macs and download the Excel file under Resources/Guests; view the YouTube videos, especially those on pivot tables.</u>	Guest – Marcie from CTAAR – Excel Workshop
5	July 24	Ch-3 Project Organization, Selection and Definition	Intro: #G Cause and Effect Diagram	Charting

6	July 26	--	Intro: #F Deming Project; PPTs posted under Guests Folder	Guest – D. Lewitter on Deming
7	July 31	Ch-4 Process Measurement; Ch-5 Process Analysis	Intro: #H Benchmarking TBD Intro: #I Process Map	Confidence Interval
8	August 2	Ch-6 Process Improvement	Intro: #J Interrelationship Diagram	Correlation Regression
9	August 7	Ch-7 Process Control; Ch-8 Design for Six Sigma	Intro: #K Force Field Analysis	Work Force Focus
10	August 9	Ch-9 Design for Six Sigma – Optimization and Verification;	--	Open Session of College Data Analysis
11	August 14	--	Materials posted under Guests Folder	Guest: Mike Kanarek: 7 Step Improvement Cycle Workshop
12	August 16	Ch-10 Implementing Six Sigma	Catch Up; House of Quality - TBD	- Time for Completing CTAAR Survey by cell phone Excel Project – 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 http://sakai.rutgers.edu/portal/site/sirs

: **N.Assessments** - This class is hands-on and features assessment of projects, rather than a lecture course that uses e
j. Course assessment is calculated as a weighted average of the following projects:

Note: All assignments are to be uploaded to the Assignments Folder and are to be submitted in paper form per the respective due date.					
Sorted by Order of Introduction	Assignment	Group vs Individual	In-Class or at Home	Weight of Grade	Date of Introduction
A	Pareto Analysis	Individual	Start In-Class	10%	7/10/2017
B	Leadership Self-Assessment	Individual	Start In-Class	8%	7/10/2017
C	College Data Analysis *	Individual	Start In-Class	30%	7/12/2017
D	Website QA	Individual	At Home	10%	7/12/2017
E	Survey Design Project	Individual	Start In-Class	10%	7/17/2017
F	Deming Project	Group	Start In-Class	5%	7/26/2017
G	Cause and Effect Diagram	Group	In-Class	5%	7/24/2017
H	Benchmarking	TBD	Start In-Class	0%	-
I	Process Map	Group	In-Class	5%	7/31/2017
J	Interrelationship Diagram Project	Group	In-Class	5%	8/2/2017
K	Force Field Analysis	Group	In-Class	5%	8/7/2017
L	Participation and Attendance	Individual	In-Class	4%	-
M	Guests (as scheduled)	Individual	In-Class	3%	-
N	House of Quality	TBD	Start In-Class	0%	-
	Total			100%	-

* No paper copy needs to be submitted. Please post under the Assignments Folder.

Sorted by Target Due Dates	Assignment	Group vs Individual	In-Class or at Home	Weight of Grade	Target Due Dates
B	Leadership Self-Assessment	Individual	Start In-Class	8%	7/12/2017
D	Website QA	Individual	At Home	10%	7/19/2017
E	Survey Design Project	Individual	Start In-Class	10%	7/24/2017
G	Cause and Effect Diagram	Group	In-Class	5%	7/24/2017
A	Pareto Analysis	Individual	Start In-Class	10%	7/26/2017
I	Process Map	Group	In-Class	5%	7/31/2017
J	Interrelationship Diagram Project	Group	In-Class	5%	8/2/2017
F	Deming Project	Group	Start In-Class	5%	8/7/2017
K	Force Field Analysis	Group	In-Class	5%	8/7/2017
C	College Data Analysis *	Individual	Start In-Class	30%	8/16/2017
H	Benchmarking	TBD	Start In-Class	0%	-
L	Participation and Attendance	Individual	In-Class	4%	-
M	Guests (as scheduled)	Individual	In-Class	3%	-
N	House of Quality	TBD	Start In-Class	0%	-
	Total			100%	

* No paper copy needs to be submitted. Please post under the Assignments Folder.

O. 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.

P. 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.

Q. 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.

R. 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>

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

T. Projects: All projects are posted on Sakai under Resources. They must be handed in on time in their entirety. Backup your paper submissions (except the CDA Project) in the Assignments Folder.

Penalty: 10% for every grade component is submitted late, with a **max of one week**. Submissions must be complete; no partial assignments can be submitted.

Note: Project due dates are tentative until confirmed.

U. Communication:

1. NETID Needed

Rutgers uses the Sakai system. To use this system, you must have a NETID and PW. A NETID is an account on one of the main systems at Rutgers (e.g., Scarletmail or RCI).

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

- **If you do not have a NETID**, please use the following page to attain one:

<http://netid.rutgers.edu/>

- **If you have any problems**, please contact your local RUCS Help Desk. You can reach them at help@nbc.rutgers.edu or 732-445-Help

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.

V. **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.** **Please do not Reply All to the Instructors.** Otherwise, several members of the staff and instructors 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.

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

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

Y. Parking Impacts: Special events may impact parking.

Z1. University/Campus Closings: 732-932-INFO (New Brunswick); <http://campusstatus.rutgers.edu>

Z2. Excel and Data Analysis

Excel and Data Analysis

- 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

- 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.

PC Users: If you do not have a help option, your version of Excel, Excel Light, as well as open source software, does not have Data analysis.

Z3. 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.