

## Syllabus for Semester **Spring 2017**

### Department Labor Studies and Employment Relations - Rutgers University

#### A. **37:575:403:01 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:** **Tuesdays, 3:55 – 6:55 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@scarletmail.rutgers.edu](mailto:smlawren@scarletmail.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.** If these office hours are inconvenient, then please e-mail me for alternatives, relative to my other class's office hours.

**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](mailto: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. 17	Ch-1 Foundations of Six Sigma: Principles of Quality Management	Overview  <b>Intro: #A Pareto Analysis (Intro)</b>  <b>Intro: #B Leadership Self Assessment</b>	Starbucks Case Study  Levels of Measurement  <b><u>Assignment of States for College Data Analysis Project</u></b>
2	Jan. 24	Ch-2 Principles of Six Sigma  Read PPTs "Pareto Made Simple" on Sakai, Resources, Folder #4, Project A, Pareto Project	<b>Intro: #A Pareto Analysis (cont) – Data Collection Due</b>  <b>Intro: #C College Data Analysis (CDA) (Intro)</b>	Excel Checklist; Note: Mac users need access to Excel 2016/Data Analysis.  Descriptive Statistics
3	Jan. 31	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.	<b>Guest – Marcie from CTAAR – Excel Workshop</b>
4	Feb. 7	--	<b>Intro: #D Survey Design Project</b>	Writing Tips

5	Feb. 14		<b>Intro: #C</b> College Data Analysis (CDA) (cont)	<b>Guest – Jim August on Problem Solving</b> <b>5-6:55 PM</b>
6	Feb. 21	Ch-3 Project Organization, Selection and Definition	<b>Intro: #E</b> <b>Cause and Effect Diagram</b>	Charting
7	Feb. 28	Ch-4 Process Measurement	<b>Intro: #F</b> <b>Website Quality Assurance (QA)</b>	Confidence Interval
8	Mar. 7	Ch-5 Process Analysis	<b>Intro: #G</b> <b>Process Map</b>	Correlation
	<b>Mar. 14</b>	<b>Spring Break</b>	-	<b>No class!</b>
9	Mar. 21	Ch-6 Process Improvement	<b>Intro: #H</b> <b>Interrelationship Diagram</b>	Regression
10	Mar. 28	--	<u>Please bring your drafts for my review.</u>	<b>Excel Project – Open Session</b>
11	Apr. 4	Ch-7 Process Control	<b>Intro: #I</b> <b>Force Field Analysis</b>	<b>Guest – K. Amron on Six Sigma</b>
12	Apr. 11	Ch-8 Design for Six Sigma	<b>Intro: #J - Deming Project - TBD</b>	<b>Guest: Mike Kanarek on Baldrige Award; Deming</b>
13	Apr. 18	Ch-9 Design for Six Sigma – Optimization and Verification Ch-10 Implementing Six Sigma	<b>Catch Up;</b> <b>Intro: #K - House of Quality - TBD</b>	<b>Time for Completing CTAAR Survey by cell phone</b>  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
14	Apr. 25	<b>Note: No course materials will be accepted after the last day of class.</b>  -		<b>Time for Completing CTAAR Survey by cell phone</b> <b>Guest: Mike Kanarek: 7 Step Improvement Cycle Workshop</b>

**Sorted by Order of Introduction**

**\* 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.**

Order of Introduction	Project	Group vs Individual	In-Class or at Home	Weight	Target Due Dates
A	Pareto Analysis	Individual	Start In-Class	10%	02 -14-2017
B	Leadership Self-Assessment	Individual	Start In-Class	10%	01-31-2017
C	College Data Analysis *	Individual	Start In-Class	30%	04-25-2017
D	Survey Design Project	Individual	Start In-Class	12%	02 -21-2017
E	Cause and Effect Diagram	Group	Start In-Class	6%	02 -28-2017
F	Website QA	Individual	At Home	12%	03 -07-2017
G	Process Map	Group	In-Class	5%	03 -21-2017
H	Interrelationship Diagraph Project	Group	In-Class	6%	03 -28-2017
I	Force Field Analysis	Group	In-Class	5%	04 -11-2017
	Deming Project	Group	Start In-Class	0%	
	House of Quality	Group	In-Class	0%	
	<b>Guests (as scheduled)</b>	Individual	In-Class	4%	
	<b>Total</b>			<b>100%</b>	

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

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	<b>Guests (as scheduled)</b>	Individual	In-Class	4%	
	<b>Total</b>			<b>100%</b>	

Syllabus 37:575:403 Problem Solving Tools at Work, Spring 2017G  
**\* 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.

- **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](mailto: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.

### **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](mailto: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 “**37:575:403**” 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, your version of Excel, Excel Light, or the student version, as well as open source software does not have 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.**

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