

A. 37:575:403: Section 80 Problem Solving Tools at Work

B. Course Description: Introduce methods and analytical tools applied in Quality Management systems. Overview of data collection and analysis; focus on fundamentals needed to understand the research of others; interpretation of common statistics; the use of graphing software.

C. LSER Objective: Access high-quality historical, qualitative, and quantitative evidence or research

D. Meeting Times: Mondays, 6:30 – 9:20 PM

E. Meeting Location: Freehold WMHEC - RU-BCC, Room Assignment: TBA

The WMHEC is located in the building Rutgers shares with Brookdale Community College at 3680 Route 9 South, Freehold, NJ 07728 Phone: 732-625-7012 Fax: 732-577-8670
Email: rutgers-wmhec@dceo.rutgers.edu

F. Professor: Michelle D. Lawrence

G. Email address: michelle.lawrence@rutgers.edu

H. Phone: Personal cell # 609-752-5272 - please leave a message. I will return calls within 24 hours. When leaving a message (Please speak slowly, state the course #. Please spell your name, and give your phone number.) Please follow up each phone call with an e-mail message.

I. Office Hours: After class.

J. 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**)

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. Office of Disability Services on Livingston Campus, 54 Joyce Kilmer Ave., Suite A145, Piscataway, NJ 08854-8045 [Lucy Stone Hall](mailto:dsoffice@rci.rutgers.edu), **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 individual and group projects, rather than a lecture course that uses exams to assess learning. Course assessment is calculated as a weighted average of all 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 prior to the class date on which they are listed.

WK #	Class Dates	Six Sigma	Problem Solving Tools (on Sakai)
1	Sept 12	Overview: Quality Management Systems: Introducing Mega-Tools	<u>Intro:</u> # A Self-Analysis What you bring to the table <u>Intro:</u> # B* Pareto Analysis Project
2	Sept 19	Ch-1 Foundations of Six Sigma: Principles of Quality Management	<u>Intro:</u> # C Leadership Self-Assessment
3	Sept 26	Ch-2 Principles of Six Sigma	Effective Tools for Teams, Personal Strengths and Weaknesses
4	Oct 3	Ch-3 Project Organization, Selection, and Definition	<u>Intro:</u> # D* College Data Analysis Project
5	Oct 10	Ch-4 Process Measurement	College Data - States Assigned <u>Intro:</u> # E Website Quality Assurance (QA)
6	Oct 17	Ch-5 Process Analysis	College Data - Data Sets and Averages <u>Intro:</u> # F Survey Design Project
7	Oct 24	Ch-6 Process Improvement	College Data - Descriptive Statistics <u>Intro:</u> # G Deming Project
8	Oct 31	Ch-7 Process Control	College Data - Charting <u>Intro:</u> # H Benchmarking Project
9	Nov 7	Ch-8 Design for Six Sigma	<u>Intro:</u> # I Cause and Effect Diagram
10	Nov 14	Ch-9 Implementing Six Sigma	<u>Intro:</u> # J Interrelationship Diagram
11	Nov 21	Combining Multi Mega Tools	<u>Intro:</u> # K Process Flow Map
12	Nov 28	Six Sigma PPTs - 10 Implementation Myths of Six Sigma	<u>Intro:</u> # L Force Field Analysis
13	Dec 5	- 10 Tips for Finishing a Six Sigma Project Successfully	Catch Up 7 Step Improvement Cycle Workshop
14	Dec 12	House of Quality	Six Sigma Case Study: Larry the Golfer

Note: A copy of each assignment must be uploaded to the Drop Box. Deduct 1 letter grade for late submissions. In-Class Group Assignments are to be submitted in Paper Form, (photo of the assignment may be saved as a PDF), and should be uploaded into the Drop Box on Sakai for grading.

Project Letter	Order of Due Date	Assignment	Group vs Individual	In-Class or At Home	% of Grade
A	September 12	Self-Analysis	Individual	In-Class	2%
C	September 26	Leadership Self-Assessment	Individual	Start In-Class	8%
B*	October 3	Pareto Analysis	Individual	Start In-Class	10%
E	October 17	Website QA	Individual	At Home	10%
F	October 24	Survey Design Project	Individual	Start In-Class	10%
G	October 31	Deming Project	Group	Start In-Class	7%
H	November 7	Benchmarking	Group	Start In-Class	5%
I	November 7	Cause and Effect Diagram	Group	In-Class	5%
J	November 14	Interrelationship Diagram Project	Group	In-Class	5%
K	November 21	Process Flow	Group	In-Class	5%
L	November 28	Force Field Analysis	Group	In-Class	5%
D*	December 5	College Data Analysis*	Individual	Start In-Class	25%
		Class Participation			3%
		Total			100%

*College Analysis will be uploaded to the Drop Box. This is an ongoing project with several segments.

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.

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, 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@nbcs.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 <https://netid.rutgers.edu/index.htm> and select Manage Email Addresses. If you need assistance, call the RUHELP Desk at 848-445-4357.

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 “**37:575:403**” in the Subject section to avoid being spammed. **Please sign your full name in all e-mail 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.

Please do not Reply All to the Instructors. Otherwise, several members of the staff and instructors will receive your correspondence.

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. Campus Closings

Rutgers University: 732-932-INFO; <http://campusstatus.rutgers.edu>

Brookdale Community College: <http://www.brookdalecc.edu/about/emergency-communications/>

Z3. 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 Link address:

<https://support.office.com/en-us/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>

• 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, does not have Data analysis.

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