School of Management and
Labor Relations
Department of Labor Studies
and Employment Relations
50 Labor Center Way
New Brunswick, NJ 08901

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RUTGERS
NEW BRUNSWICK

Note: This is an online (Remote Asynchronous) class.

Syllabus for Semester Spring 2026, v1
Department of Labor Studies and Employment Relations - Rutgers University

A. 37:575:403:90, Problem-Solving Tools at Work

B. Course Description: This course provides an overview of problem-solving tools and techniques. It focuses on the fundamentals needed to understand the research of others. Included will be the use and interpretation of Excel and Data Analysis.

C. Assistant Teaching Professor: Sheila M. Lawrence, Ph.D.
Email ID: smlawren@smlr.rutgers.edu

D. Course Objectives (37:575:403:90)
Labor Studies and Employment Relations Department:

Goal II) Quantitative, Qualitative and Analytical Skills

Apply appropriate quantitative and qualitative methods for research workplace issues.

- Formulate, evaluate, and communicate conclusions and inferences from quantitative information

Goal III) Research Skills

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.

- Use evidence-based analysis to appraise the validity of various hypotheses, theories, and approaches to workplace issues

Note: The principles of diversity, equity and inclusion are, also, being addressed.

E. Course Delivery Format and Virtual Office Hours & Virtual Drop-In Sessions

This course runs from January 20, 2026 through May 04, 2026.
It is delivered ***entirely*** online through the Learning Management System, Canvas. There will be no Face-to-Face, in-person classroom sessions, except for an optional Virtual Drop In or Office Hour Webex
sessions https://rutgers.webex.com/meet/smlawren

The course is delivered in *asynchronous* mode. This means the learning activities and communication take place outside of real-time. You do not have to log in at any specific scheduled time; you log in at your convenience. However, there may be times, if when you are working in groups on an assignment, you would need to set up a "live" session such as via Webex.

Note: Even though you do not need to log in at any specific time, **you are required to adhere to all coursework due dates.**

If you are new to Canvas, review the tutorials in Course Tools Tutorials, in the Modules section of the course's Canvas site.

Virtual Drop-In Sessions

Wednesdays, 5:00 PM to 6 PM through WebEx. If you are new to WebEx, please review the tutorials on the Course Tools Tutorials.
https://rutgers.webex.com/meet/smlawren

For the virtual drop-in sessions, project and **Exc**el questions, brainstorming ideas on issues at Rutgers or at your jobs or internships, etc. are welcome.

While the virtual drop-in sessions are not mandatory, I highly encourage you to attend.

Virtual Office Hour Session

I am also available for a private or group WebEx office hour sessions as needed, for example, with regard to **Excel/Data Analysis**.
https://rutgers.webex.com/meet/smlawren

Reminder: Only Rutgers and Canvas e-mail can be used.

F. 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.

G. Resources for Student Success: The faculty and staff at Rutgers are committed to your success. Students who are successful tend to seek out resources that enable them to excel academically, maintain their health and wellness, prepare for future careers, navigate college life and finances, and connect with the RU community. Resources that can help you succeed and connect with the Rutgers community can be found at success.rutgers.edu, and nearly all services and resources that are typically provided in-person are now available remotely.

H1. Computer/Software/Apps/Accessories Requirements:

- Access to the internet
- Microsoft Word
- Webcam (recommended)
- Headphones (highly recommended)
- Reliable computer
- Basic Computer Specifications for Canvas

> **Excel:** Only Excel 2016+ (either PC or Mac) can be used in the class.
> It is free while you are a student at Rutgers.
> Further details are in Part S below.

H2. Technical Support

If you need technical assistance at any time during the course or to report a problem with Canvas:

- Visit the Canvas Student Tutorial in Canvas, Module A, Technical Support
- Visit the Rutgers Canvas Student orientation in Module A

Technical support for Canvas has transitioned from Teaching and Learning with Technology (TLT) to the Office of Information Technology (OIT).

Helpdesk: Rutgers Office of Information and Technology
Email: https://it.rutgers.edu/help-support
Call: 833-OIT-HELP

I. 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.

J. Course Content:

Note: Submissions directly to Canvas are considered in final form.
There are no assignment do-overs.

Week # and Dates	Six Sigma Topic Readings
Week 1 (January 20 - 25)	Ch-1 Foundations of Six Sigma: Principles of Quality Management
Week 2 (January 26 – February 01)	Ch-2 Principles of Six Sigma
Week 3 (February 02 - 08)	Ch-3 Project Organization, Selection, and Definition
Week 4 (February 09 – 15)	Ch-4 Process Measurement
Week 5 (February 16 – 22)	Ch-5 Process Analysis
Week 6 (February 23 – March 01)	Ch-6 Process Improvement
Week 7 (March 02 - 08)	Ch-7 Process Control
Week 8 (March 09 – 13)	Ch-8 Design for Six Sigma
Spring Break	**March 14 - 22**
Week 9 (March 23 - 29)	Ch-9 Design for Six Sigma – Optimization and Verification
Week 10 (March 30 – April 05)	Ch-10 Implementing Six Sigma
Week 11 (April 06 – 12)	Meet the Lean Six Sigma Expert
Week 12 (April 13 – 19)	Pivot Table Workshop
Week 13 (April 20 - 26)	Multi-Voting Project; Catch Up
Week 14 (April 27 – May 04)	Workforce Focus, Wrap Up

K. Coursework Schedule: This class is hands-on and features an assessment of projects, rather than a lecture course that uses exams to assess learning. Course assessment is calculated as a weighted average of the course projects.

Per Canvas, project due dates are tentative until confirmed. Assignments and readings/videos represent the material to be covered during that class session. Students are expected to complete the readings/videos.

Week Start	Read Text Chapter and Watch Videos -> Project	Points	Week Due
0	LinkedIn Learning	2	1
0	Academic Integrity Contract	4	1
0	Student Profile	2	1
1	*Discussion Week 1: Meet Your Learning Community*	25	1
1	Leadership Self-Assessment	100	2
2	*Discussion Week 2: Examples of "Waste in Your Life" (Comment on Classmates' Posts)*	25	2
3	*Discussion Week 3: Root Cause Analysis (Comment on Classmates' Posts)*	25	3
3	Team (of 1-2) Survey Design Project	100	4
2	Pareto Analysis	100	5
4	Website QA (Quality Assurance)	100	6
6	*Discussion Week 6: Poka Yokes (Comment on Classmates' Posts)*	25	6
5	Excel CDA: Descriptive Statistics/Confidence Interval	25	7
7	*Discussion Week 7: Thoughts about the Course at the Midpoint*	25	7
6	Team (of 1-2) Cause and Effect Diagram	100	8
7	Excel CDA: Charting	25	8
7	Team (of 1-2) Process Map	60	9
8	Excel CDA: Correlation	25	9
8	Team (of 1-2) Interrelationship Diagraph Project	100	10

11	*Discussion Week 11: Lean Six Sigma Black Belt (Submit 1-2 Questions; Comment on Classmates' Posts).*	25	11
9	Team (of 1-2) Force Field Analysis	100	11
12	Excel CDA: Pivot Table	25	12
13	Multi-Voting Project	60	13
13	*Discussion Week 13: Impact of the Course - Comment on Classmates' Posts)*	25	14
--	Total	1,101	- -

L. Assessment Policy:

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

Letter Grade	Scores Based on Course Components
A	90-100
B+	85-89.99
B	80-84.99
C+	75-79.99
C	70-74.99
D	60-69.99
F	< 60

Regarding Grades:
- **Grades on Canvas are only based on submitted and graded work.**
  - Concerns about a graded assignment must be brought to the instructor **within 7 days** of receiving the grade. Assignment grades are finalized after this 7-day period. The instructor may make exceptions in cases of extended illness or other emergencies.
- Grades on Canvas will be updated regularly; if you notice any discrepancies or have questions, please do not wait until the end of the semester – please let your instructor know right away.
- Please do not ask me to round up any score(s), as I must be fair to all my students.
- Detailed descriptions of topics, a list of readings, videos, assignments, and other learning activities are noted in the Canvas course site. You will have access on or a few days prior to the start of the semester.
- **Submissions directly to Canvas are considered in final form.**
- **There are no assignment do-overs.**

M. Course Policies and Procedures

Academic Integrity
Rutgers University takes academic dishonesty very seriously. By enrolling in this course, you assume responsibility for familiarizing yourself with the Rutgers University Academic Integrity Policy before submitting any assignment or exam. The policy can be found at: http://nbacademicintegrity.rutgers.edu/

All students should conduct themselves with the highest standards of academic honesty. Examples of academic dishonesty include: copying others' written work, not citing sources, and submitting the same assignments/papers multiple times in different courses. All incidences of questionable academic integrity are a serious matter and may result in a no grade (0.0) for the assignment or course. Academic dishonesty will not be tolerated and will be treated in accordance with Rutgers University Academic Integrity Policy.

Expectations
- Engage with all online course material
- Complete all assigned readings and assignments on time
- Actively participate in all course activities, including online discussions.
- Follow the honor code when completing all quizzes and projects
- Ask questions to enhance understanding of the material
- Communicate with the instructor if you have questions pertaining to the material or the course
- Check your email and Canvas announcements regularly to stay informed about course updates

Policy on the Use of Generative AI in the Course (PROHIBITING ITS USE)

Generative AI tools, such as ChatGPT, GPT-4, DALL-E and other AI-based content creation platforms, are strictly prohibited in the coursework, assignments, and assessments unless otherwise specified by the instructor. This prohibition does not extend to AI-powered tools commonly used for proofreading, grammar correction, accessibility checks, Microsoft Word's grammar correction tool, Grammarly, Turnitin Draft Coach and Google. Violations of this policy will be treated as academic dishonesty, in accordance with the Rutgers' Academic Integrity Policy on plagiarism and cheating.

Plagiarism
By enrolling in this course, you are indicating implicitly that you have read, understood, and accepted Rutgers University's policies and procedures regarding academic integrity and dishonesty. Plagiarism and cheating will not be tolerated and all University policies apply. Specifically, if plagiarism or cheating is suspected, the student(s) will be asked to meet with the instructor. If the instructor concludes that an instance of plagiarism or cheating has occurred, the student(s) will be subject to an appropriate sanction or penalty outlined in Rutgers University Academic Integrity Policy.

Please note that plagiarism is using the ideas or writings of another as one's own. It varies in degree and severity. The most severe is the use of another's entire paper word-for-word. Less severe is the use of another's sentence, paragraph, or ideas without giving credit to that individual (i.e., without providing a reference).

N. Recommendations: Requests for a recommendation letter must be made in writing **after completion of the course.** Please be courteous and do not provide my e-mail address without my consent as I will need pertinent background information.

O. Project/Assignments: Each project must be handed in on time in its entirety. The submission must be complete; no partial assignments can be submitted.

P. Student E-Mail and Phone Numbers:
a. Please note that it is Rutgers IT policy that you **use your Rutgers.edu email** for all Rutgers-related course correspondence.

b. Students, also, have the responsibility to then inform the professor of any changes to their phone numbers (day and evening) from the listing in the Student Profile.

c. Please check your e-mail and the course Canvas site 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. Announcements will be communicated through Canvas which will trigger email notification to your Rutgers.edu email. Additionally, you may download and install the Canvas Student App for your mobile devices so you can be notified via the app. To download/install the app refer to: Canvas Student App iOS, Canvas Student App Android.

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

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

S. Excel 2016+ and Data Analysis

> **To determine what version of Excel you have:** On Excel, select File, then Account to determine your version of Excel.
>
> ***To access free Microsoft Office***, including Excel while a Rutgers student, please click go to the Rutgers Software Portal:
>
> https://oit.rutgers.edu/university-software-portal
>
> Go to the link above and select the University Software Portal link. On the page that follows, select Microsoft Software for Students. You will be prompted to log in using your NetId. Then follow the instructions for downloading and installing.

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 and Numbers, Google Drive or Google Sheets do not have the Analysis Toolpak/Data Analysis.

Excel and Data Analysis
> ***To access free Microsoft Office***, including Excel while a Rutgers student, please click go to the Rutgers Software Portal: https://oit.rutgers.edu/university-software-portal
>
> Students need to go to the link below and select the University Software Portal link. On the page that follows, they select Microsoft Software for Students. They will be prompted to log in using their NetId. Then follow the instructions for downloading and installing.
>
> ✓ Excel 2016 or higher must be used in the course.
>
> ✓ To download the Analysis ToolPak:
>   - for Macs - https://www.youtube.com/watch?v=B6OfD-nXFUk
>   - for PCs - https://www.youtube.com/watch?v=BFksczTOxsM

If you do not have a help option on your Excel, then your version of Excel, Excel Light, or The student version, as well as open-sourced software and Numbers, Google Drive, or Google Sheets, then you do not have the Analysis Toolpak/Data Analysis.

If you are unable to download the Analysis ToolPak, either:
1. Please contact OIT to see if the Analysis ToolPak is available on your MacBook, or is memory an issue? Their number is 833-OIT-HELP.
2. If that does not work out, contact 833-OIT-HELP about the virtual lab so that you can remotely control a Rutgers desktop in order to access Excel 2016 or higher.

T. Student-Wellness Services: UNIVERSITY SERVICES
Although some of these offices remain closed to in-person visits, all remain accessible virtually. We encourage students to continue to use these resources during this semester of remote learning.

The following links provide students with access to information on how to receive extra support for (a) victim and mental health services, (b) academics, and (c) financial assistance (mainly emergencies).   https://smlr.rutgers.edu/academic-programs/current-students

Service	Description	Contact Information
Student Accommodations	If you are a student in need of accommodations, please register with the **Office of Disability Services** in order to initiate the accommodations process. Please present your letter of accommodation to your instructor during the first week of the semester. Please note that accommodations are not retroactive..	(848) 445-6800 Lucy Stone Hall, Suite A 145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 https://ods.rutgers.edu/
Just In Case Web App	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.	http://health.rutgers.edu/medical-counseling-services/counseling/caps-next-step/
Counseling, ADAP & Psychiatric Services (CAPS)	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.	(848) 932-7884 17 Senior Street, New Brunswick, NJ 08901 www.rhscaps.rutgers.edu/ Medical Services: http://health.rutgers.edu/medical- counseling-services/medical/ Counseling Services: http://health.rutgers.edu/medical-counseling-services/counseling/

Violence Prevention & Victim Assistance (VPVA)	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.	(848) 932-1181 3 Bartlett Street New Brunswick, NJ 08901 www.vpva.rutgers.edu/
Scarlet Listeners	Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.	(732) 247-5555 scarlet.listeners@gmail.com https://scarletlisteners.wixsite.com/scarletlisteners
		Last Updated: 7-26-2025

Food Insecurity:
Rutgers Student Food Pantry
http://ruoffcampus.rutgers.edu/food//

Graduate Student Association Food Bank
http://gsa.rutgers.edu/grad-resources/rutgers-student-food-pantry/

pantryRUN is the **campus food pantry**
https://myrun.newark.rutgers.edu/pantryrun

Note: There is no final exam during Finals Week.
Note: This course outline/syllabus is subject to change at the discretion of the instructor.

You are encouraged to retain a copy of the syllabus for future purposes
(e.g., for transfer credits, career options, graduate school prerequisites.)