New Course Proposal

Date Submitted: 03/31/20 12:57 pm

Viewing: HIST 338 : Climate Change and Environmental Justice in America

Last modified: 03/31/20 12:57 pm

Changes proposed by: Neil Maher (maher)

Subject Code	HIST - History
Course Number	338
Department	History
College	Coll of Science & Liberal Arts
Short Title	Environmental Justice History
Long Title	Climate Change and Environmental Justice in America
Effective Term	Fall 2020
Academic Level	Undergraduate
Name of Course Coordinator	Prof. Neil Maher
Do you wish to have this course considered to be a GER?	Yes
GER Categories	Liberal Arts Literacy

In Workflow

1. HIST CUE
2. HIST Chair
3. SL Dean
4. CUE Chair
5. GER Committee
6. CUE Chair
7. President of the Faculty Senate
8. Provost's Office
9. Banner

Approval Path

1. 04/01/20 11:03 pm Alison Lefkovitz (alefkovi): Approved for HIST CUE
2. 04/02/20 11:14 am Neil Maher (maher): Approved for HIST Chair
3. 04/02/20 2:00 pm John Wolf (jwolf): Approved for SL Dean
4. 04/14/20 9:07 pm David J. Horntrop (david.horntrop): Approved for CUE Chair
5. 05/04/20 12:53 pm Eric Katz (katze): Approved for GER Committee
6. 09/23/20 4:13 pm David J. Horntrop (david.horntrop):

Approved for CUE Chair
7. 09/24/20 12:59 am Denis Blackmore (blackmor): Approved for President of the Faculty Senate
8. 09/24/20 11:25 am Basil Baltzis (baltzis): Approved for Provost's Office

Liberal Arts Literacy

Analyze society and culture using the perspective of the liberal arts, including: (a) communications; (b) ethics; (c) history; (d) literature; (e) philosophy; (f) politics; (g) religion, and (h) the performing and visual arts.	Yes
Conduct primary and secondary research through: (a) critical reading; (b) data collection; and (c) source evaluation.	Yes
Compose effective oral and written artifacts through: (a) knowledge of process (i.e., composing process); and (b) knowledge of the conventions of academic and/or professional communication; and (c) rhetorical awareness.	Yes

Add attach any additional information you would like brought to the attention of CUE/ CGE here.

Attach any additional information you would like brought to the attention of CUE/ CGE here: Uploaded Files:

Credits	3
Lecture Hours	3
Laboratory Hours	0

Recitation/Other Hours	0
Total Contact Hours	3

Catalog Description

Examines the history of environmental inequality within the United States, especially in poor and minority communities, as well as the rise of the environmental justice movement during the post-World War II period. Considers the numerous historical causes of environmental discrimination along with the strategies undertaken by local communities to alleviate such inequality. Topics include analysis of grassroots organizing, legal strategies, and policy implementation focused on fostering a more environmentally just society.

Prerequisites

Prerequisites: HUM 102 with a grade C or higher and a course fulfilling the History and Humanities GER 200 level course with a grade of C or higher. The history of interactions between humans and their natural environment on the North American Continent. Considers perceptions of, use of, and alteration of the environment. Traces the cultural, intellectual, economic, political and technological transformations from early colonial times to the late 20th century. Addresses the diverse environmentalisms that have emerged the last several decades. This course may be used to satisfy a three credit 300 level GER in History and Humanities.

Corequisites

Pre or Corequisites

Reason for prerequisites (or lack thereof)

Restrictions

Purpose of the Course

This portion is not required for course changes

Why is the course needed?

Currently there is no course at NJIT that examines environmental discrimination and the emergence of the environmental justice movement. This course is especially necessary in our

current age of climate change, since poor and minority communities will experience the most severe environmental disruption caused by rising temperatures.

For whom is the course intended?

Majors in History; Law, Technology and Culture; STS; Environmental Studies

What other students might elect it?

Other students majoring in science and/or technology (engineering) who are interested in the current climate crisis and its unequal impact on communities in the United States

Is the content duplicated in other courses? Explain.

No. There are no other courses on environmental inequality and justice being offered at NJIT.

Course Details

This portion is not required for course changes

Expected textbook, required reading or instructional resources. Are there available open textbook and digital learning material resources to cover the proposed course's needs? If yes, list open textbook/resources that will be used for this course.

From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement, by Luke Cole and Sheila Foster (New York University Press, 2001).

The Nature of Hope: Grassroots Organizing, Environmental Justice, and Political Change, by Char Miller and Jeff Crane, eds. (Utah State/University of Colorado Press, 2018).

E*nvironmental Justice Reader: Politics, Poetics & Pedagogy,* by Joni ADamson, Mei Mei Evans, Rachel Stein (University of Arizona Press, 2002)

Environmental Justice in a Moment of Danger, by Julie Sze (University of California Press, 2018)
Changes in the Land: Indians, Colonists, and the Ecology of New England, by William Cronon (W.W. Norton, 1991).
The Cholera Years: The United States in 1832, 1849, and 1866, by Charles Rosenberg (University of Chicago Press, 2009)
There are currently no open textbooks that cover the material I want to cover regarding environmental inequality and the environmental justice movement.

Proposed grading scheme, showing probable percentages and rubrics.

GRADING:

Attendance and Participation:	15%	
Short Papers:	45%	(15% each)
Exams	40%	(20% each)

see sample syllabi below

Include one or more sample syllabi that describe in detail typical assignments.

Maher-Enviro
Justice-300 level
syllabus.doc

Learning Outcomes

Click the "green plus sign" to add learning outcome

Outcome — 1. To familiarize students with environmental inequality and the environmental justice movement in the United States.

Describe how outcome will be assessed

Lecture and in-class discussion

Outcome — To develop in students the ability to think critically about the major historical questions related to environmental inequality and to

articulate their own interpretations of the environmental justice movement.

Describe how outcome will be assessed

Discussion of secondary readings and in-class discussion and written assignments regarding primary historical texts and sources

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Outcome

3. To help students develop good writing and critical reading skills.

Describe how outcome will be assessed

Written assignments, in-class writing workshops, and feedback from professor on written assignments.

Outcome

4. To help students express their ideas orally in both formal presentations and informal class discussions.

Describe how outcome will be assessed

Formal presentation assignment

Course Mechanics

Who can and will teach the course?

Prof. Neil Maher

How will the addition of this course impact current faculty load?

It will not impact current faculty load

How often will it be offered? Every Other Year

Will this course replace an existing course? If so, what are the impacted course(s)?

No

What cost is associated with introducing the course?

None

What space is required?

a smart classroom

What new equipment is needed, if any? What existing equipment is to be used, if any? (Include computer and library needs).

none

What staff time is required? (Consider facility, support

staff, and graduate assistants).

none

Estimated enrollment

36 per semester

What degree program or programs will it apply to?

Degree Program(s)
B.A. in Law, Technology and Culture
B.A. in History
History Minor
Legal Studies Minor

What other program or programs could benefit from this course?

Possible Degree Program(s)
B.S. in Science, Technology and Society

Will the course be offered by any non-traditional methods of delivery?

no

Describe any unusual features of the course. Describe any participation by outside experts or invited speakers.

none

How will the course be evaluated?

by History Department course evaluation system already in place

Instruction Type	Lecture
Default Grade Mode	Normal Grading
Reviewer Comments	

Key: 8865

NJIT New Jersey Institute of Technology

MARTIN TUCHMAN SCHOOL OF MANAGEMENT

MGMT 116-002: Quantitative Analysis with Applications for Business
Spring 2020

Instructor: Steven M. Gomez
E-mail: steven.m.gomez@njit.edu
Office#: 973-596-3257
Mobile#: 973-650-3975
Office: Central Ave Building, 4013

Office Hours: Monday 11am – 12pm, Tuesday 1pm – 2pm , & Thursday 11 am – 12 pm, or By Appointment

Class: Monday and Thursday, 1:00 pm – 2:20 pm, Guttenberg Info Tech Center (GITC) 2315B

Course Description: This course introduces students to statistical concepts, basic optimization modeling and tools that can be leveraged for professional data analytics. The emphasis in the course is meant to be cursory on knowing what analytical techniques to use to address specific business and/or practical professional questions, on the use of computer software to perform actual statistical analysis, and on the interpretation and communication of the results of such analysis. The use of Excel and other software tools is emphasized. The Course covers basic statistical techniques that are often used to solve problems in various business areas such as finance, marketing, and operational management as well other professional areas requiring quantitative analysis. The course focus is on the basics of inferential statistics covering among other topics confidence interval estimation, hypothesis testing, and regression analysis, although descriptive statistics are also addressed. The course also introduces basic time-series analysis and simple forecasting models, as well as cursory linear programming and its application in professional environments.

Course Content

- Understanding the basics of inferential statistics including Confidence interval estimation, hypothesis testing, and regression analysis
- Basics of descriptive statistics and their use in data analysis for business and professional careers.
- Presenting professional analysis, solutions, and recommendations based on data analysis including time series analysis forecasting, regression analysis, and basic linear programming skills.

Required Materials –
Business Analytics, 3rd Edition By James R. Evans (Digital Version)
Published by Pearson
ISBN-13: 978-0-13-523171-5
http://www.mypearsonstore.com/bookstore/business-analytics-0135231671

NOTE: The above book is a digital E-books, however new/used physical copies can be ordered/used but **are not required**.

All other materials will be posted on the course website at Canvas (http://canvas.njit.edu) or distributed in class.

Software (Required):

Microsoft Excel 2016/365 – Available as part of Microsoft Office 2016 (Windows OS); Office: Mac 2016 (Mac OS); Free Download at http://ist.njit.edu/software-available-download/ . Please be aware of the difference among versions in features and layout. If needed, please take advantage of on-campus computers

Hardware (Required):
This course is taught in a PC lab and will require the use of a PC or laptop for class work, homework, and quizzes/exams. It is your responsibility to ensure that you have access to the necessary hardware to run programs and access Canvas both in and out of class. PC labs are available for you to use in addition to your own devices. We will identify additional lab hours outside of class where you can access the necessary hardware to compete and submit assignments.

Learning Goals and Outcomes addressed in this course:

- Develop a variety of professional analytical skills
- Gain mastery of useful skills to identify, process and interpret data sets from professional scenarios
- Have knowledge of common statistical tools that may be applied to solving general and practical professional problems
- Have basic knowledge of modeling and optimization with software applications
- Apply the acquired knowledge and skills to the solution of practical professional and business problems, knowing how to select the technique(s) appropriate for solving a particular problem and how to execute the technique(s)
- Know how to interpret and communicate the results of statistical data analysis

Analytical and Problem Solving Skills	Information and Communication Skills	Interpersonal Skills and Team Dynamics	Ethical Reasoning	Technology Skills	Globalization
X	X	X	X	X	X

Analytical and Problem Solving Skills
Develop skills to critically analyze and solve practical business and professional problems.
Apply these skills to practical case study projects, which require critical thinking and strong problem solving skills.

Information and Communication Skills
- Develop skills to search databases, locate and use data to analyze business and professional problems and recommend solutions, properly citing data sources.
- Advance skills that enable effective business and professional writing.
- Practice articulating statistical concepts and gaining perspective on discussion questions through class participation and online discussions.

Interpersonal Skills and Team Dynamics

- Demonstrate the skills of working in teams and achieving common goals. Develop management and leadership skills.
- Understand team roles and relationships that foster cooperation toward goals. Learn how to manage expectations and deadlines.

Ethical Reasoning

Develop skills to identify ethical dilemmas. Develop a sense of ethical and professional behavior.

Technology Skills

Prepare effective Excel spreadsheets, graphs, and a PowerPoint presentation. Utilize cloud based tools and learning environments to access, share, and present data analysis.

Globalization

Understand the impact of globalization and the complexity it brings.

Grading and Evaluation

Midterm Exams (2)	30%
Final Exam	15%
Case Projects (2):	30%
Homework Assignments	15%
Class participation/attendance/quizzes	10%

Canvas: There is a Canvas site (at http://canvas.njit.edu/) for this course on which documents will be posted as needed. Login to Canvas using your UCID and password. All announcements, assignments, changes, etc. are posted there. The student is responsible for remaining up to date at all times. I will send e-mails to the class through Canvas. By default, Canvas uses your NJIT email address. If you do not check that regularly, you must change the address in your Canvas profile to one that you do check. There is no excuse for not receiving information sent to the class via email.

Homework Guidelines:

Homework will be posted and submitted via Canvas. Homework will consist of Excel spreadsheets and data sets that will be provided. When possible and appropriate, templates will be provided. All submitted files must follow the following naming format:

First letter of first name_Last name_Chapter#_question#.file extension
Example: **sgomez_chapter1_q2.xlxs**

- All homework must be your own work and Excel files cannot point to any outside reference.
- When submitting Excel files, you must show all work which includes using formulas.
    - Any calculation or answer that is a direct number input and does not reference a formula will not count.
- All work in Excel files must be clearly labeled and any/all graphs must have some explanation underneath them and have all necessary labels.
- All work done in Excel must be formatted appropriately so that it is easy to read.
    - Please know that it is not enough to just do the work, but it has to be presented in a way that it can be read, followed and understood.

Note: Any assignment that requires work in an Excel file must be submitted as an Excel file, no other file formats will be accepted. This means no .pdf, .doc, .numbers, or any other file format.

Class Projects:

- There will be two (2) projects required for this course:
  - Data Visualization for Performance Lawn Equipment Project:
    - Students will need to analyze, manipulate, and present data in an usable way to support business decisions
  - PLE Management Project
    - Students will review, edit, and interpret data from the PLE Company and develop recommendations and formal reports based on the findings from the data analysis. There will be a formal report summarizing the work done, providing recommendations based on the data output, and forecasted projections to inform management's next steps.
- For both projects, additional details will be provided including spreadsheet templates, project requirements, base-line assumptions, and business objectives to support group project.

Lab Hours:
As this is a 4 credit course, we will identify and designate lab hours outside of regular class time, where I and a tutor and/or Teacher's Assistant (TA) will be available to provide supplemental guidance on topics covered in class and with any assignments (homework and projects). Hours will be posted on the Canvas site.

Grading Scale

A	B+	B	C+	C	D	F
90%	85%	80%	75%	70%	60%	<60%

Grades are to reflect the level of understanding of course content. Therefore, to achieve the grade of A or B in this class expect to:

- ***Attend 100% of the classes***. During class new content is explained and then applied using in- class exercises and activities for better understanding.
- ***Come to class prepared 100% of the time***. This means completing homework prior to class to the best of your abilities. To maximize learning and your competitiveness in the workplace …

  STUDY IT! WORK IT! Don't give up.

  READ IT! COMPLETE IT! Bring your questions to class.
- Actively participate in class discussions, exercises, and activities to further understanding.

Expect the grade of C or lower with less preparation and participation.

Incompletes (I) are only given under special circumstances such as severe illness … not for being unprepared for class or exams.

Academic Integrity:
"Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at:
http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. **Any student found in violation of the code by cheating, plagiarizing or using *any online software inappropriately will result in disciplinary action. This may include a failing grade of* F, and/or suspension or dismissal from the university.** If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu"

CLASSROOM CODE OF CONDUCT

To maximize learning and help transition to a professional work environment.

Success in business depends on the combined performance of the professional team, not the self-centered interests of one individual. Similarly, a good learning environment is collectively created and requires the contribution of ALL students within the class. To maximize classroom learning:

- **Attend regularly**. Arriving on time and departing when class is dismissed.
- **Prepare for class**. Arriving with assignments complete.
- **Engage in learning**. Being attentive during class. Giving class your undivided attention and actively contributing to discussion, exercises, and projects.
- **Show respect**. Listening attentively to others' thoughts and ideas.

Disruptive behavior includes:

- **No Electronic Devices in Class**: Please do not use electronic devices in class unless the use is directly related to the work we are doing. Turn off cell phones, MP3 players, laptops, etc. If you want to use an electronic device to take notes, please let me know. Taking photos or making audio/visual recordings may not be done without the expressed written permission of the instructor
- Engaging in side-conversations.
- Disrespecting others.
- Using language inappropriate to a professional work environment.
- Arriving late and departing before class is dismissed.

Non-compliance:

- Exhibiting behavior that disrupts the class learning environment will result in a deduction of participation points. Students may also be asked to leave class.
- After continued non-compliance a student may be permanently removed from the class.

EXAM CODE OF CONDUCT

To minimize cheating during an exam.

- Cell phones are to be turned off (not on vibrate) and put away.
- Dumb calculators may be used.
- Bags should be zipped up and put in the front of the room.
- NO leaving the classroom once the exam starts. Therefore, before the exam plan to use the restroom, get water, etc.
- For digital exams, the necessary proctoring tools and software may be used.

Attendance & Participation: You are expected to arrive at class on time and stay until the end. You are responsible for everything that is said in class, which may include material not covered in the readings, modifications to the syllabus, and announcements concerning exams. Class attendance and participation are important for student learning. Starting with the second week of class, attendance and participation will be accounted in students' course grade. Excused or unexcused absences mean that course material is being missed. Students missing classes are responsible to make up the missed material. And, prior information on absence does not qualify students to have attendance. Of course, medical or other exceptional (with documents/proof) cases will be considered. Attendance: Students need to sign attendance sheet, or attendance will be called anytime (beginning, middle or end of the class)

Course Policies

Computer Requirement and Access to the Internet: NJIT requires all students to have access to a computer at their place of residence. Details as to this requirement may be found on the college's website on the page describing NJIT's Undergraduate Student Computer Requirement.

Access to the Internet is required for this course. NJIT provides on campus access to the Internet to all students. Details as how to access the Internet as well as other resources at NJIT may be found in the Student Quick Start Guide.

Deadlines/Late Work/Make-ups: Specific policies concerning the acceptance of late work and make-ups are discussed in the sections covering course requirements. In general, work will be accepted late without penalty or allowed to be made-up only if there are extraordinary circumstances beyond students' control. Students will need to contact the Dean of Students' office and have it determine that the reasons given for not doing the work on time are valid.

Athletic/Games/Sports team member must submit request from dean for not being able to take test/quiz, before the quiz/test date. This request is not acceptable for Mid-term and Final Test.

Extraordinary Circumstances: The predictable demands of family, work and other courses do not mean extraordinary circumstances. Students are expected to be able to balance these with this course's demands. Being locked out of the class because of late paying tuition is not considered an extraordinary circumstance, unless it can be documented that the Registrar/Bursar's Office/Financial Aid has made an error. Inability to access the Internet or Canvas is not considered an extraordinary circumstance.

Incompletes: Highly discouraged. Incompletes will be given to students only due to major reasons outside of their control (e.g. major illness, family tragedy, military service). Students must contact the Dean of Students' office and have it determine that the reasons given for not doing the work on time are valid.

Students with disabilities: Students with disabilities needing accommodations of any nature so as to have a fair opportunity to perform in the class need to contact the counseling center. Staff at the counseling center will determine what constitutes a reasonable accommodation and inform the instructor of what it is.

MGMT-116 Section 002 Course & Assignment Schedule

(Please note that questions and due dates are subject to change.
Any revisions will be posted to Canvas and addressed in class)

Week	Dates	Topic	Assignments
1	1/23	Course Overview	**Assignment**: Ltr to Professor (Due: 1/31) **Read/Review** Chapters 1 & 1a
2	1/27, 1/30	**Chapter 1:** Introduction to Business Analytics **Chapter 1a:** Excel Basics	**HW**: Ch 1 (Due: 2/7)
3	2/3, 2/6	**Chapter 1a:** Excel Basics (ctd..) **Chapter 2:** Introduction to Database Analytics	**HW**: Ch 1a (Due: 2/14) **Read/Review** Chapter 2
4	2/10, 2/13	**Chapter 2:** Introduction to Database Analytics **(ctd…)**	**HW: Ch 2** (Due 2/21) **Read/Review** Chapter 3
5	2/17, 2/20	**Chapter 3:** Introduction to Data Visualization	**HW:** Ch 3 (Due 2/28) **Read/Review** Chapters 1 - 3 **Class Project #1: (Due 3/14)** **Data Visualization – Performance Lawn Equipment**
6	2/24, 2/27	**Review** **Exam #1 – Chapters 1, 1a, 2, 3**	**Read/Review** Chapter 4
7	3/2, 3/5	**Chapter 4:** Introduction to Descriptive Statistics	**HW:** Ch4 Q's (Due 3/13) **Read/Review** Chapter 5
8	3/9, 3/12	**Chapter 5:** Introduction to Probability Distributions and Data Modeling	**HW**: Ch 5– Q's (Due: 3/27) **Read/Review** Chapter 6
9		**Spring Break**	
10	3/23, 3/26	**Chapter 6:** Introduction to Sampling and Estimation	**HW:** Ch 6 Q's (Due: 4/3) **Read/Review** Chapter 7
11	3/30, 4/2	**Chapter 7:** Introduction to Statistical Inference	**HW:** CH 7– Q's (Due: 4/10) **Read/Review** Chapter 4-7 **Class Project #2: (Due 5/5)** **"PLE Management project"**
12	4/6, 4/9	**Review** **Exam #2 – Chapters 4 - 7**	**Read/Review** Chapter 8
13	4/13, 4/16	**Chapter 8:** Introduction to Trendlines and Regression Analysis	**HW:** Ch 8– Q's (Due: 4/24) **Read/Review** Chapter 9
14	4/20, 4/23	**Chapter 9:** Introduction to Forecasting Techniques	**HW:** Ch 9 – Q's (Due: 5/1) **Read/Review** Chapter 11 & 13
15	4/27, 4/30	**Chapter 11:** Introduction to Spreadsheet Modeling and Analysis **Chapter 13**: Introduction to Linear Optimization	**HW:** Ch 11 & Ch 13 Q's (Due: 5/8)
16	5/4	**Review for Final**	**Project #2 Due 5/4**
17		**Final Exam**	**Location TBD**

MGMT 116: Application for GER reapproval

A. History of prior approvals by GER Subcommittee, CUE, and Faculty Senate (FS)

A.1 GER subcommittee meeting and approval on 2/17/18: Excerpt from minutes of the meeting

The committee agreed that a new course must be approved by CUE prior to being presented to this committee for consideration as a GER course; however, the committee agreed that an exception should be made for MGMT 116 since procedure was just being established. A motion to accept MGMT 116 as a potential GER course was passed by the committee despite the fact that MGMT116 has not yet been be approved by CUE as a course.

A.2 CUE committee meeting and approval minute on 2/26/18: Excerpt from minutes of the meeting

The previously discussed new course MGMT 116 also received further discussion and the committee voted to approve it as a course; despite the fact that the GER subcommittee did not use the criterion described in the document creating the GER for adding a new courses to the GER (due to not realizing its presence in that document), the committee voted to make a one time exception to allow MGMT 116 to count as a quantitative reasoning (probability and statistics) GER course. The committee also voted to add MGMT 116 as a prerequisite for MGMT 216. In addition, the committee voted to approve an updated curriculum for SoM reflecting these new courses as well as a reduction in total credits due to the new GER.

A.3: FS meeting on 3/29/18: Excerpt from minutes of the meeting

Motion to Approve the Addition of MGMT 116 as a GER Course in Quantitative Reasoning (D. Horntrop)

Discussion. Discrepancies surrounding the process for how this course was approved in the CUE and GER committees. Document presented to Faculty Senate is not satisfactory as it is missing information regarding competencies and learning outcomes. Comments from members that approving this motion may sent the precedent for others to put forth additional courses to be considered as a GER. Comments regarding SOM making appropriate edits for clarity and returning for approval from Faculty Senate with revisions. M. Saadeghvaziri motion to approve. D. Sollohub seconded. Motion was not approved. Blind vote (12 no, 6 yes, 2 abstentions).

A.4: FS meeting on 4/5/18: Excerpt from minutes of the meeting

School of Management Petition From MTSM to Reduce GER Course Credit Limit (R. Caudill 10 min)

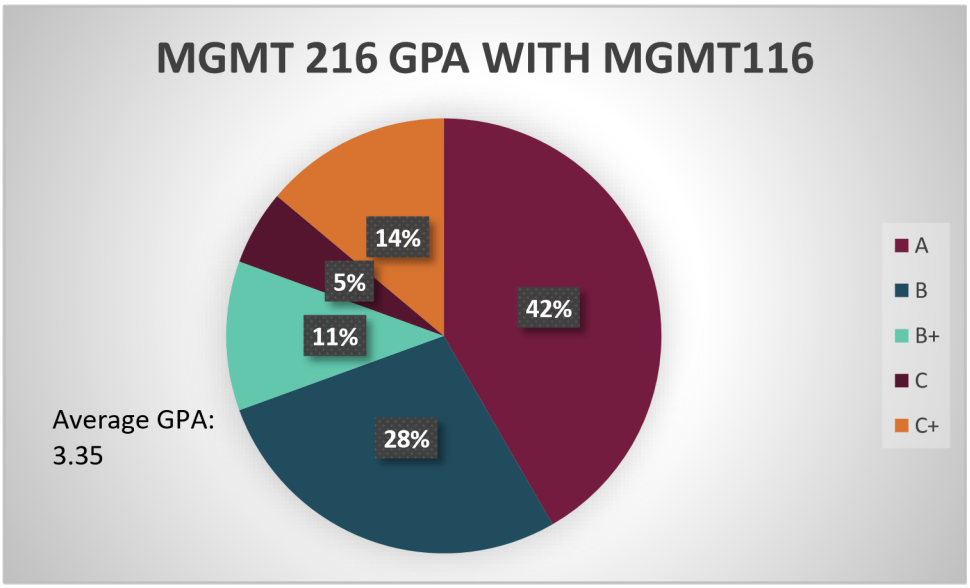
Discussion. S. Pemberton motion shows a lack of confidence in CUE.s ability to complete work within one year. M. Kam stated that students need to be advised properly. Overall concerns about setting precedent for other departments to push for courses to substitute other GER

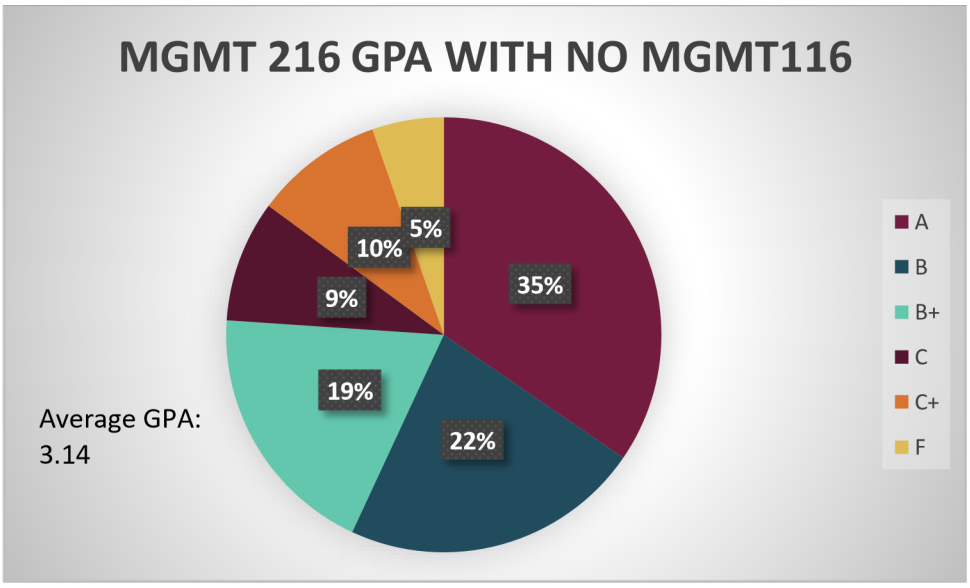
courses. I. Gately motion to approve petition. H. Grebel seconded. Friendly amendments by S. Pemberton: add "up to three years" in the last paragraph of petition following a modifying phrase that limits "the three credit reduction to be in the quantitative reasoning area," I. Gatley accepted amendment. (11 yes, 3 no, 2 abstentions).

B. Evidence that the temporary approval worked: Comparison of the performance of students in courses where statistics are needed was better as compared to when students were taking the MATH provided course.

Comparison of grades of students in MGMT 216

- Term: 2019-90; students with MGMT 116: 36; without MGMT 116: 62.
- With MGMT 116, average GPA of MGMT 216 students increased from 3.14 to 3.35.
- With MGMT 116, the percentage of A in MGMT 216 increased from 35% to 42%.
- With MGMT 116, no student got F for MGMT 216.





C. Evidence that MGMT 116 meets the GER Literacies for Quantitative Reasoning Literacy

Learning Outcome # 1: Define and explain the fundamentals principles, concepts, and mechanisms within the domain of mathematics and/or statistics.

- **Course Satisfies Completely**
  - 66% of the course is directly focused on areas related to mathematics and statistical concepts as we explore descriptive statistical analysis as well as predictive modeling and prescriptive analytical concepts. This covers 10 weeks (8 chapters) of statistical and mathematical concepts.
  - Chapter/lesson example:
    - Chapter 4: Introduction to Descriptive Statistics
      - In this chapter, we introduce numerical measures that provide an effective and efficient way of obtaining meaningful information from data. Which include:
      - Explain the difference between a discrete metric and continuous metric, and provide examples of each.
      - Describe the four groups of data classification: categorical, ordinal, interval, and ration, and provide examples of each.
      - Construct a frequency distribution for categorical, numerical, and grouped data.
      - Construct a relative frequency distribution and histogram.
      - Compute cumulative relative frequencies.
      - Find percentiles and quartiles for a data set.
      - Construct a cross-tabulation (contingency table).
      - Explain the difference between a population and a sample.
      - Understand statistical notation.
      - List different measures of location.
      - Compute the mean, median, mode, and midrange of a set of data.
      - Use measures of location to make practical business decisions.
      - List different measures of dispersion.
      - Compute the range, interquartile range, variance, and standard deviation of a set of data.
      - Explain Chebyshevs theorem.
      - State the Empirical Rules and apply them to practical data.
      - Compute a standardized value (z-score) for observations in a data set.
      - Define and compute the coefficient of variation.

    - Explain the nature of skewness and kurtosis in a distribution.
    - Interpret the coefficients of skewness and kurtosis.
    - Use the Excel Descriptive Statistics tool to summarize data.
    - Calculate the mean, variance, and standard deviation for grouped data.
    - Calculate a proportion.
    - Use PivotTables to compute the mean, variance, and standard deviation of summarized data.
    - Explain the importance of understanding the relationships between two variables. Explain the difference between covariance and correlation.
    - Calculate measures of covariance and correlation.
    - Use the Excel Correlation tool.
    - Identify outliers in data.
    - State the principles of statistical thinking.
    - Interpret variation in data from a logical and practical perspective.
    - Explain the nature of variation in sample data.
- Students are given homework questions, problems, and data sets to apply concepts covered in real world business scenarios. Datasets are provided for each question and excel spreadsheets are submitted via canvas. Homework examples include:
    - Find the mean, median, and midrange for the data in the Excel file Automobile Quality using the appropriate Excel functions or formulas.
    - Considering the data in the Excel file Home Market Value as a sample of homeowners on this street, compute the mean, variance, and standard deviation for each of the variables using formulas (4.5), (4.8), and (4.10). Verify your calculations using the appropriate Excel function.
    - Compute the coefficient of variation for each variable in the Excel file Home Market Value. Identify Which has the least and greatest relative dispersion?
- At the end of this section of the course, students show their understanding of concepts covered by completing and submitting a project that incorporates all of the statistical/analytical concepts/ principles covered as well as a formal report that outlines and explains their approach, rational, interpretation of outcomes, and recommendations for business decisions based on the analysis.

Learning Outcome # 2: Apply logical reasoning, problem solving, and inference as informed by the principles of statistics including: probability; data measurement; distribution; and communication of statistical data.

- **Course Satisfies Completely**

- Problem solving and logical reasoning is at the core of the course as each concept and principal is intended to help students learn how to define problems, and use tools and methods to analyze data in a logical structure inorder to reduce risk and uncertainty and improve overall decision making. To do so we cover the following chapters, where we are introducing concepts/definitions, Formulas, excel functions, and practical organizational problems to be addressed, solved, and presented via in class examples, homework, exams, and projects.
    - Introduction to probability and distributions and data modeling
        - Introducing concepts and logical problem solving structure
        - Using technology as a tool to help with organizing, analyzing, and reporting data
        - Applying concepts to organizational, societal, and real world problems/issues.
    - Introduction to Sampling and Estimation
        - Using technology to understand and apply statistical concepts in sampling, validating samples, and the design/ implementation of sampling and estimation plans in response to real world problems and data sets.

D. Additional Information about MGMT 116: Quantitative Analysis with Applications for Business

The course is designed to introduce theories and tools related to data analytics, statistics, and decision making and its applications in organizations and society through the use of technology. This includes the introduction and use of Microsoft Excel for analyzing, visualizing, and reporting on data as well as a thorough review of descriptive statistical concepts associated with business. The course curriculum has been designed in three stages, all using technology (Excel), to learn concepts, theories, and strategies related to business statistics and data analytics. The three stages are as follows:

Stage 1: Introduction to Data analytics and Microsoft Excel.
Time: 5 weeks covering 4 chapters. Each lecture has hands on exercises using Excel, homeworks to reinforce understating and application, a project that will incorporate both practical skills taught as well as writing, analytics, and individual interpretation of problem solving. This section culminates in one of three exams for the course with focuses on understanding and application of theory and concepts through online multiple-choice and short answer questions.

Stage 2: introduction to Descriptive analysis and business statistics
Time: 5 weeks covering 4 chapters including Introduction to Descriptive Statistics, Introduction to Probability distributions and data modeling, introduction to sampling and estimation, and introduction to statistical inference. All content areas are taught using Excel datasets rooting in practical problems, case studies, and scenarios. Students learn statistical concepts through the use of excel and how to interpret the outcomes in support of decision making. Each chapter has live in-class case studies as well as practical homework assignments using Excel. The Section ends with the second project for the course, which is a formal data analytics case study where students use

and apply all of the statistical concepts introduced along with previous data analytics/excel skills to generate formal a formal report along with details data analytical outputs to generate insights and recommendations in response to the case study. At the end of these 4 chapters, students will have their 2nd exam testing the understating and application of concepts, formulas, approaches, and implementation of concepts covered.

Stage 3: Introduction to Predictive and prescriptive Analytics
Time: 4 weeks covering 4 chapters serves as a cursory introduction to concepts and strategies related to predictive and prescriptive data analytics and their applications in organizational decision making. Having covered the fundamentals of descriptive statistical analysis, students are introduced to more complex data analytics concepts, tools and applications. Students will use Excel to model and apply concepts covered including introduction to trend lines and regression analysis, forecasting techniques, spreadsheet modeling, and linear optimization. This section ends as part of their final exam which will be comprehensive and cover content from all previous chapters.

E. Student evaluation of the course: Answers to the question What are the best features of this course?

The usefulness and realworld applications of the skills we learn in class.

It teaches the student hands on excel and a lot of techniques regarding statistics

This course gives an introduction to several different topics related to data analysis, including applying methods learned in class to data sets. This course is very beneficial and I am happy that the course material is presented in the way that it is.

An introduction to the business aspects of excel

I like that we can be profficient in excel. Where even if youve never touched excel before you will learn a lot.

The use of excel to solve business problems

Homework give you a practical experience

I really feel that I have learned something useful for my future in this course.

The best feature is that we constantly use Microsoft Excel. Getting familiar with this program is extremely beneficial in the business field and very useful in general.

This is one of those courses which will actually be of use in future work places.

The ability to learn and use Microsoft Excel.

Understanding the basic concepts of excel so that it helps us in our careers.

Practicality

Can learn more skills about excel.

I learnt so much new thing in excel .

Very practical learning of useful tools projects really help to learn how to use software.

The best features of this course are the applications of excel which are used in the real world for many jobs no matter the industry.

Excellent knowledge of Microsoft software being provided which is important for future careers in business.