Course Information:
Course: PEP.809
Credits: 3
Class Time: Asynchronous delivery via Blackboard
Prerequisites: None

Contact Information:
Instructor: Max Saber, DHA, MSHI
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Office Hours: Online, by appointment

Course Description:
This class is designed to give students the necessary tools to manipulate and/ or restructure a certain dataset before it can be analyzed using one of the statistical procedures. This course is essential for database management. Students can use SAS to analyze data for their poster presentations, thesis projects, peer-reviewed journal articles, and job internships.

Text/Primary Course Materials:
Below is a list of recommended textbooks for this course but they are not required, selected readings will be provided via Blackboard:
- The Little SAS Book (Sixth Edition), Delwiche LD and Slaughter SJ, SAS Institute, Inc., 2019.

Other online resources will be provided and used throughout the semester.

Course Objectives:
By the end of this course, the student will be able to:
- Transform different raw data files into SAS specific files to be used by SAS Foundation and SAS Enterprise Guide for analysis,
- Access and import external raw data sets and SAS data sets,
- Create temporary and permanent SAS data sets and describe their different purposes,
- Reshape and transform datasets whose structure does not conform for specific type of analysis,
- Merge data sets that come from 2 or more internal SAS or external sources,
- Create new data set variables and modify existing ones,
- Learn the most commonly used SAS functions,
- Understand conditional processing and program flow,
- Write simple algorithms, which make use of logical statements, in conjunction with standard programming tools, such as DO LOOPS and ARRAYS,
- Dress and format SAS output, and
- Program, run, and interpret basic statistical procedures or SAS PROCs such as t-tests, ANOVA, chi-square tests, correlation, linear regression, logistic regression, and Cox proportional hazards model.

Students are expected to use the SAS tools learned during this course, apply them using different data sets and models, and write their own SAS programs to answer a specific hypothesis they need to test.

Blackboard Access Information:
You may access Blackboard by going to https://my.mcphs.edu/ and clicking on the Blackboard button or by going directly to https://mcphs.blackboard.com. You will need your MCPHS username and password to sign on. If you encounter problems please contact the Help Desk at helpdesk@mcphs.edu or 617-732-2170. Students must check the course Blackboard site regularly for announcements, materials and other information pertaining to the course.

Required Citation Format:
If citations are required for an assignment, students are expected to use APA 7th edition styling.

Instructional Strategies:
Students are expected to review the posted lecture content, readings, and other material posted weekly to Blackboard. Students will be writing SAS codes and submitting short programs using training data sets that will be provided to them. Students are highly recommended to explore how they could use SAS to answer questions they will come up with from exploring various data sets provided that may not have been asked in class.

Assessment of Student Learning and Teaching Effectiveness:

Course assignments	50%
Journal assignment	15%
Online participation and engagement	15%
Final assignment	20%

Course Policies:
The MCPHS University Student Handbook is incorporated into this Syllabus and may be found here: https://my.mcphs.edu/departments/student%20affairs/boston/student%20handbook

Assignments and Examinations: Any student who fails to submit an assignment when due, or fails to sit for an exam when scheduled, will receive a penalty of up to and including a score of zero as the applicable grade, unless such absence is excused by the Professor. See note section below for additional information. Any student cheating, which includes bringing an electronic device into an exam, whether alone or with others, collaborating on an exam or individual assignment, or plagiarizing will receive a penalty up to and including a zero for the activity.

Electronic Devices: Students may use electronic devices such notebooks or laptops with a keyboard for note-taking. Any screen displays during class time must be appropriate and related to the course. Course lectures MAY NOT be recorded without ADVANCE permission of the instructor.

Excused Absences: Each student is responsible for contacting the professor if the student is absent for an exam, a project, group meeting or presentation. Each student is required to notify the professor in advance of any religious or legal obligation which interferes with course attendance. Make-ups will be allowed at the professor's sole discretion. The student must request a make-up prior to the scheduled exam and provide supporting documentation if requested by the professor. The professor reserves the right NOT to accept absences excused by another party. The make-up format and schedule are at the discretion of the professor.

Course Grading:
The grade distribution is based on the following points; there is NO rounding:

       A = 93-100
       A- = 90-92
       B+ = 87-89
       B = 83-86   **B is the passing grade for MS and PhD PEP students**
       B- = 80-82
       C = 70-79
       F = 69 and below

INCOMPLETE "I" COURSE GRADES: THE INCOMPLETE REVERTS TO **F** UNLESS THE COURSE IS COMPLETED AND A DIFFERENT GRADE IS ENTERED BY A DATE SET BY THE PROFESSOR OR THE REGISTRAR. PLEASE NOTE THAT NO STUDENT MAY GRADUATE WITH AN INCOMPLETE GRADE IN ANY COURSE REQUIRED FOR GRADUATION.

The academic calendar can be found here: https://my.mcphs.edu/departments/registrar/academic-calendar

Credit Hour Policy:
The credit hour policy applies to all courses at all levels (graduate, professional and undergraduate) that award academic credit regardless of the mode of delivery including, but not limited to, self-paced, online, hybrid, lecture, research, clinical and laboratory. Academic units are responsible for ensuring that credit hours are awarded only for work that meets the requirements outlined in this policy.

A lecture period of 50 minutes per week or laboratory work of 110 to 220 minutes per week, extending over one semester, constitutes one academic credit hour. For each hour of lecture, students are expected to spend a minimum of two hours outside of class preparing for the course. For research, clinical/experiential rotations and service learning activities, actual hours may vary by program, but such activities must include an amount of work that is at least equivalent to lecture and laboratory courses.

School Cancellation Information:
When MCPHS officially closes, for example due to inclement weather, the class meeting will be cancelled. In the event of cancellation, or poor attendance due to MBTA closures, faculty and students remain responsible to continue to cover the materials indicated in the course syllabi. Students are responsible for achieving the learning outcomes listed. Faculty may, in their full discretion, substitute recorded lectures, on-line readings, discussions and/or projects which achieve the learning outcomes and course objectives. These changes are in lieu of the stated class meetings. These changes will be posted on Blackboard. Please consult Blackboard for further instructions when MCPHS is closed due to inclement weather.

As this is an online, asynchronous course, school cancellations **very rarely** will change our schedule. In any event this occurs, updated information will be provided on Blackboard.

Office of Student Access and Accommodations (OSAA):
A students' right to equal education is protected under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. All students must abide by the Academic Policies and Procedures set forth in the MCPHS Academic Catalog. Questions regarding accommodations can be directed to the Office of Student Access and Accommodations.

Under the ADA/Section 504, students with documented disabilities/conditions, that impact their access to

education, and wish to request reasonable accommodations can contact the Office of Student Access and Accommodations (OSAA). To initiate services, students can complete the Student Request for Services Form: https://mcphs-accommodate.symplicity.com/public_accommodation/

OSAA can be contacted via email at OSAA@mcphs.edu or via phone at 617-879-5995.

Absence Policy:
In the case of illness or prolonged absence, it is the student's responsibility to notify the Dean of Students Office, and his/her course faculty within five days from the first date of absence. Exceptions to the five day notification period are rare and can only be approved by the Dean of Students Office. With acceptable documentation from a student, an official memorandum will be issued notifying faculty of an excused absence. In the case of a legitimate, excused absence, course instructors will make all reasonable attempts to assist the student to satisfy requirements of the course.

Note: Students are expected to abide by instructions in each course syllabus regarding student responsibilities related to class absences. Students who fail to do so may be ineligible to receive an excused absence, regardless of reason for the absence. With respect to completion of work missed, if an acceptable agreement between the student and professor(s) cannot be reached, the school dean will serve as arbitrator.

Academic Honesty:
The student is expected to abide by the College's Academic Honesty Policy as explained in the Student Handbook. Plagiarism is considered a violation of this policy. Plagiarism is defined as submitting another person's work as one's own without proper acknowledgement or using the words or ideas of others without crediting the source of those words or ideas. In order to deter plagiarism and ensure appropriate use of resources in student research and learning, the College subscribes to a plagiarism prevention service, www.turnitin.com. Faculty may request the students to submit his/her written work electronically in order to verify that when ideas of others are used they are cited appropriately. The course syllabus identifies student work that must be submitted electronically for such review, and provides directions for doing so.

E-mail Policy:
All MCPHS students are required to open, utilize, and maintain (i.e., keep storage within the maximum set by the Department of Information Services) an MCPHS e-mail account. Official college communications and notices are sent via MCPHS e-mail accounts. All students are responsible for regularly checking their MCPHS e-mail and for the information contained therein. ONLY MCPHS accounts will be used in all matters related to academics, student life, and college notifications. The college does not forward MCPHS e-mail to personal e-mail accounts.

Students must abide by the Academic Policies and Procedures set forth in the MCPHS College Catalog, which is a part of this Syllabus. Important information regarding Excused Absence Approval, Disability Support Services for students, Academic Honesty and Plagiarism and other academic policies is set forth in the Academic Policies and Procedures section of the MCPHS Catalog for the appropriate academic year.

Course Outline:
Student participation is essential for success in the course. Check Blackboard regularly for additional information. The outline is approximate and will be adjusted as necessary, in the opinion of the professor.

	Date	Topic
Week 1	Jan 9	Course introduction, goal setting, and expectations.
Week 2	Jan 16	Introduction to SAS Foundation and Enterprise Guide
Week 3	Jan 23	Creating, exploring, and working with SAS datasets, part I
Week 4	Jan 30	Creating, exploring, and working with SAS datasets, part II
Week 5	Feb 6	SAS variables, functions, syntax, and formatting
Week 6	Feb 13	Logical and conditional programming
Week 7	Feb 20	SAS data arrays
Week 8	Feb 27	Sorting, formatting, and presenting SAS output
	March 6	Spring Break
Week 9	March 13	Basic summary statistics
Week 10	March 20	Intermediate SAS functions: -PROC UNIVARIATE -PROC TTEST -PROC NPAR1WAY -PROC CORR -PROC REG
Week 11	March 27	Advanced SAS Functions: -PROC ANOVA -PROC GLM -PROC LOGIST -PROC LIFETEST
Week 12	April 3	Building Charts and Graphs in SAS
Week 13	April 10	SAS Data Management: Storing Data and Data Warehousing
Week 14	April 17	~Flex Week~
Week 15	April 24	Final Exam Week

Course faculty reserves the right to make changes to this syllabus during the semester as warranted. If this occurs, updates will be provided on Blackboard.