



PUBHBIO 6270 – Introduction to SAS for Public Health Students
2 credit hours – Autumn, 2025
In-Person

Lecture Time:	Tuesdays 1:50pm–2:45pm EST, Psychology Building – Room 035		
Lab Sessions:	Wednesdays & Thursdays 1:00pm–1:55pm EST, Cunz Hall – Room 230		
Course Instructor:	James B. Odei, PhD. (Mathematical Science–Statistics, Utah State University, Logan-Utah, 2014) Office: 248 Cunz Hall Phone: 614-247-8048 Email: odei.3@osu.edu		
Instructor's Office Hours:	<i>Tuesdays 12:00pm–1:00pm EST</i> , or by appointment, <i>Cunz Hall – Room 248</i> Office hours will be led by the instructor once weekly. During this session, students will have the space to ask questions about course content, assignments, the previous week's muddy points, or anything else that may be unclear from lectures or lab. These sessions are designed to enhance learning and provide additional context to support the student's ability to apply the information to current issues/topics.		
Faculty Feedback & Response Time:	The following give you an idea of my intended availability during the course: (Remember that you can also call 614-688-HELP at any time if you have a technical problem.) • Grading and feedback: For large weekly assignments, you can generally expect feedback within 7 days. • Email: I will reply to emails (sent via carmen) within 24 hours on days when class is in session at the university.		
Graduate Teaching Assistant (GTA):	Pin-Hsun Mao Email: mao.575@buckeyemail.osu.edu Office: TBD Office Hours: Mondays 8:20am–9:20am EST (via Carmen Zoom) Zoom Link: https://osu.zoom.us/j/95031379677?pwd=f9MT1Ju48LhJaANwnMMTUxiUnYjGGA.1 Meeting ID: 950 3137 9677 Password: 564195		
GTA Responsibilities:	The teaching assistant (TA) will hold regular office hours for any students who need help with class material. In addition, the TA will provide instructions on how to use the computer software required for the course. The TA may assist with scoring homework and lab work; however, final grades will be assigned by the		

professor. **Any questions regarding grading should be directed to the professor and not the GTA.**

Course Description: Students will gain basic familiarity with SAS programming for data management and analysis. The course takes place in a lecture room with follow up lab work in a computer lab. Hence, students will be able to implement the lecture material after it is presented. Assignments will require using SAS to perform data management techniques and generate descriptive statistics and graphical representations of public health data.

Prerequisites: Graduate standing in the College of Public Health or permission from the instructor.

Course Goals and Learning Objectives:

Upon completion of this course, students will be able to:

- CLO 1: Read data from an external file into SAS.
- CLO 2: Merge existing datasets together.
- CLO 3: Use a do loop to change the structure of a dataset.
- CLO 4: Use Boolean operators to create variables and select observations from a dataset.
- CLO 5: Run procedures for data cleaning and recoding.
- CLO 6: Run procedures for simple statistical analysis.

Competencies:

Foundational MPH Competencies:

- Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate (3)
- Interpret results of data analysis for public health research, policy or practice (4)

MPH-BIO Specialization Competencies:

- Use computational methods to effectively analyze complex public health and medical data (5)

MS-BIO Specialization Competencies:

- Use computational methods to effectively analyze complex public health and medical data (9)

A complete list of College of Public Health Competencies is located on the College of Public Health website: <https://cph.osu.edu/students/competencies> or in Appendix C of the CPH Graduate Student Handbook that can be found at: <https://go.osu.edu/cphgradcompetencies>

Required Text: No required textbook.

Recommended Textbooks: *The Little SAS Book: A Primer (6th Edition)* (2019) by Lora D. Delwiche and Susan J. Slaughter. [Note: 5th Edition (2012) can also be used]

Learning SAS by Example: A Programmers Guide (2007) by Ron P. Cody.

*All these books can be found online via the OSU library electronic resource.

Carmen Access:

There is a Carmen site for this course: <https://osu.instructure.com/courses/192667>. All course materials are available via Carmen. All assignments **must** be turned in electronically via the Carmen dropbox, unless otherwise directed.

Login at <http://carmen.osu.edu> with your OSU internet username (**name.#**) and password then go to PUBHBIO 6270. The site will contain the syllabus, lecture slides, lab and homework assignments. All assignments **must** be turned in electronically via the Carmen dropbox, unless otherwise directed.

You will need to use [BuckeyePass \(buckeyepass.osu.edu\)](https://buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the [BuckeyePass - Adding a Device](https://admin.resources.osu.edu/buckeyepass/adding-a-device) help article for step-by-step instructions (<https://admin.resources.osu.edu/buckeyepass/adding-a-device>).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click “**Enter a Passcode**” and then click the “**Text me new codes**” button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the [Duo Mobile application](https://admin.resources.osu.edu/buckeyepass/installing-the-duo-mobile-application) (<https://admin.resources.osu.edu/buckeyepass/installing-the-duo-mobile-application>) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357 (HELP) and the IT support staff will work out a solution with you.

Course Format: **How this course works**

- **Mode of delivery:** This course is delivered 100% **in-person**. There are required days/sessions when you must be present at a scheduled time.
- **Credit Hours and Work Expectations:** This is a **2-credit-hour course**. According to [Ohio State policy \(go.osu.edu/credithours\)](https://go.osu.edu/credithours), students should expect around 2 hours per week of time spent on direct instruction (e.g., instructor content and Carmen activities) in addition to 4 hours of homework/active learning activities (e.g., reading and assignment preparation) to receive a grade of (C) average. *To earn a grade higher than C, students should expect to put in additional time and effort.*
- **Attendance and participation requirements:** Because this is an in-person course, your attendance is based on your presence and participation in class. The following is a summary of students’ expected participation:
 - (i) **Participating in group activities for attendance: AS NEEDED** You are expected to attend class every week.

- (ii) **Office hours and live sessions: OPTIONAL** All live, scheduled events for the course, including my office hours, are optional. While optional, these times offer opportunities to have open conversations about the course material, address confusing concepts and provide additional context to the course.
- (iii) **Participation in class discussions: OPTIONAL** As part of your participation, you are encouraged (but not required) to contribute as part of substantive class discussion on the week's topics or activities.

Course Notes: Posted on the course webpage (Carmen) prior to each lecture.

Course Technology: *Technology Skills Needed for This Course*

- Basic computer and web-browsing skills
- Navigating Carmen (go.osu.edu/canvasstudent): for questions about specific functionality, see the [Canvas Student Guide](#).

Required Equipment

- **Computer:** current Mac (MacOS) or PC (Windows 10+) with high-speed internet connection
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

Required Software

- [Microsoft Office 365](#): All Ohio State students are now eligible for free Microsoft Office 365 (now Microsoft 365 Copilot). Full instructions for downloading and installation can be found at go.osu.edu/office365help.
- [Statistical Analysis System \(SAS\)](#): This course will use the SAS software. SAS is available in the Cunz Hall computer labs (2nd Floor, room 230). In addition, SAS is provided for this course through a remote server so that students can access it anywhere they have an internet connection by going to <https://remotelab.osu.edu/#/>.

Login with your OSU internet username (**name.#**) and password. Note that the login procedure requires BuckeyePass, also referred to as Duo or 2-factor authentication

<https://admin.resources.osu.edu/buckeyepass/guide-to-two-factor-authentication-by-duo-mobile> (<https://guide.duo.com>) – the same procedure as is required to access Carmen.

For the purpose of illustration and to get the best computing support, students are **required to use SAS for all assignments and activities**.

Online Help:

- a) Official SAS online documentation website:
<http://support.sas.com/documentation/onlinedoc/base/#base94>
- b) Google

Technology Support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://it.osu.edu/help>, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** go.osu.edu/IT
- **Phone:** 614-688-HELP (4357)
- **Email:** servicedesk@osu.edu
- **TDD:** 614-688-8743

Assignments/Assessments

Lab

Assignments: 20%

These exercises will give you an opportunity to practice SAS codes you learned in class. During each lab session, you will be given a data set to analyze and a set of specific questions to answer. The instructor and the TA will be available to answer questions. At the completion of each lab session, you must turn in your code and output from the day. While you are encouraged to work on the assignment with others, you must turn in your own work at the end of class (or by 11:59 pm EST if necessary) to the Carmen dropbox. Full credit will be given if you correctly answer each question and submit code and output.

Homework: 40%

There will be 7 homework assignments comprising the homework grade. Homework must be turned in by 11:59 pm EST on the dates listed in the syllabus. Homework must be turned in by the deadline or you will receive an automatic fail unless you have been given permission to turn the assignment in late (see late homework policy below). Questions about homework can be addressed to the instructor or TA during class, office hours, or via email. Your homework should be submitted via the 'dropbox' on Carmen. If there is a problem with the webpage, you may e-mail your homework to the instructor. It is the student's responsibility to ensure that assignments are submitted before the due date.

Late Homework Policy: If you find yourself in a situation where you absolutely cannot turn in a homework assignment on time, for any reason, you must contact me BEFORE the assignment is due. At that time, we will discuss your extenuating circumstance and decide, at my discretion, whether to offer you a second deadline. If approved by me, you must turn in your completed homework by the second deadline - no additional extensions will be given.

Final Project: 40%

To reinforce the concepts covered in class, at the end of the semester, you will be given a dataset to work on a final project. The purpose of the final project is to test your ability of using SAS to manage health-related datasets and perform basic statistical analysis. The final project will consist of 4 to 5 major questions. You may use class notes or any available outside resources, but should NOT work together on the final project. The final project must be completed and submitted in Carmen by **11:59 pm EST on Tuesday, December 9, 2025.**

Grading: Final class grade will be determined as follows:

Lab Assignments	20%
Homework Assignments	40%
Final Project	40%

Any questions regarding grading should be addressed within one week of the return of the assignments. **Any questions regarding grading must be directed to the professor and not the TA.**

Grading Scale: This course will use the following grading scale*

A	93 – 100	Outstanding work that reflects mastery of the material and the ability to apply it
A-	90 – <93	Excellent work that reflects mastery of the material
B+	87 – <90	Good work that reflects mastery of most of the material
B	83 – <87	Good work that reflects mastery of some of the material
B-	80 – <83	Good work that reflects mastery of a few aspects of the material
C+	77 – <80	Mediocre work that reflects familiarity with, but not mastery of the material
C	73 – <77	Mediocre work that reflects familiarity with most of the material
C-	70 – <73	Mediocre work that reflects little familiarity with the material
D+	67 – <70	
D	60 – <67	
E	Below 60	

**The instructor reserves the right to adjust the grading scale if it appears necessary due to overall class performance. These adjustments will only raise a student's grade, not lower it.*

A student will be given a grade of “Incomplete” only if they have completed most of the class work and are unable to complete the work for a serious reason beyond their control. Students are responsible for educating themselves about the registrar's deadlines for withdrawal from the course. Assistance can be obtained from the College of Public Health, Office of Academic Programs and Student Services.

Assignment Scoring: Clear and effective communication is crucial in programming. This rule is applied to all assignments (e.g., labs, problem sets, project). In any problem-solving question it is the student's responsibility to make sure that he/she/they justifies his/her/their answer and provides enough detail for the grader to understand. Points may be deducted for answers that are not well-justified, even if they are correct.

Any questions regarding grading must be addressed **within one week** of the return of the assignment or exam. No request of regrading on previous assignments/exams will be accepted after the course final project is submitted. As a general policy, when requested, the regrading will apply to the whole exam or the homework, not just to the specific part which the student thinks there might be a mistake. Consequently, regrading may lead to a lower overall score. **Any questions regarding grading must be directed to the professors.**

Class Policies:	All labs and assignments are due by the required dates listed in Carmen Canvas. These labs and assignments must be turned in electronically via the Carmen dropbox, unless otherwise directed. • Course Materials: Students are absolutely prohibited from uploading course materials to Quizlet, Chegg, or similar websites under both copywrite regulations and as part of the academic integrity agreement. • Lab/Homework Assignments: Students are permitted (indeed, encouraged) to work together on problem sets, but each student must independently write up and submit their own responses. • Final Project: This course includes a final group project, which is designed to be completed on your own without the help of others, but you can use books and notes. Students must not communicate with anyone (other than the instructor) about the final project. It is not permissible to use any artificial intelligence (AI) software, messaging board, online tutoring service, question-answering service, or any other source of human or computer assistance to complete the final project. Further instructions will be provided on Carmen. • Reusing past work: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you have explored in previous courses, please discuss the situation with me.
Discussion and Communication Guidelines:	The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful. • Writing style: While there is no need to participate in class discussions as if you were writing a research paper, you should remember to write using good grammar, spelling, and punctuation. A more conversational tone is fine for non-academic topics. • Tone and civility: Let us maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Remember that sarcasm does not always come across online. • Citing your sources: When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)
Disclaimer:	This syllabus should be taken as a fairly reliable guide for the course content. However, you cannot claim any rights from it and in particular, the instructor reserves the right to change due dates or the methods of assessment. Official announcements will always be made in class or posted on the course website (Carmen).
Copyright Statement:	The materials used in connection with this course are subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be

considered before copying, retaining, or disseminating materials outside of the course. This **syllabus** and **all course materials** (e.g., lab and homework assignments, solution keys, lecture slides/notes) are under copyright by the instructor and cannot be posted elsewhere without written permission.

Generative AI Policy

There has been a significant increase in the popularity and availability of a variety of generative artificial intelligence (GenAI) tools, including ChatGPT, Sudowrite and others. These tools will help shape the future of work, research, and technology but when used in the wrong way, they can stand in conflict with academic integrity at Ohio State.

Given that the learning goals of this class are reading data from an external file into SAS, writing your own codes (1) to merge existing datasets, (2) for data cleaning and recoding, and (3) for simple statistical analysis, the use of generative artificial intelligence (GenAI) tools such as Copilot or ChatGPT or translation platforms such as Google Translate is **not permitted in this course**. Any use of GenAI tools for work in this class may therefore be considered a violation of Ohio State's [Academic Integrity](#) policy and [Code of Student Conduct](#) because the work is not your own. The use of unauthorized GenAI tools will result in referral to the [Committee on Academic Misconduct](#). If we suspect that you have used GenAI on an assignment for this course, we will ask you to communicate with us to explain your process for completing the assignment in question.

If you feel you need to use GenAI for translation, please contact me (the instructor) first. If you have any other questions regarding this course policy, please contact me.

Office of Student Life: Disability Services

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services (in room 098 Baker Hall, 113 W. 12th Avenue) to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Mental Health Services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You

can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24-hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline or through the 24/7 National Suicide Prevention Hotline at 1-800-273-TALK or at <https://suicidepreventionlifeline.org>.

Religious Beliefs or Practices Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the [Civil Rights Compliance Office](#). (Policy: [Religious Holidays, Holy Days and Observances](#))

Academic Integrity

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University, the College of Public Health, and the Committee on Academic Misconduct (COAM) expect that all students have read and understood the University's *Code of Student Conduct* and the School's *Student Handbook*, and that all students will complete all academic and scholarly assignments with fairness and honesty. The *Code of Student Conduct* and other information on academic integrity and academic misconduct can be found at the COAM web pages (<https://oaa.osu.edu/academic-integrity-and-misconduct>). Students must recognize that failure to follow the rules and guidelines established in the University's *Code of Student Conduct*, the *Student Handbook*, and this syllabus may constitute "Academic Misconduct."

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Please note that the use of material from the Internet without appropriate acknowledgement and complete citation is plagiarism just as it would be if the source were printed material. Further examples are found in the *Student Handbook*. Ignorance of the *Code of Student Conduct* and the *Student Handbook* is never considered an "excuse" for academic misconduct.

If I suspect a student of academic misconduct in this course, I am obligated by University Rules to report these suspicions to the University's Committee on Academic Misconduct. If COAM determines that the student has violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in the course and suspension or dismissal from the University. If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* (www.northwestern.edu/uacc/8cards.htm)

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee ([Faculty Rule 3335-5-48.7 \(B\)](#)). For additional information, see the [Code of Student Conduct](#).

Intellectual Diversity

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

Grievances and Solving Problems

A student who encounters a problem related to his/her educational program has a variety of avenues available to seek resolution. According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, you may take your case to the department chairperson. Specific procedures are outlined in [Faculty Rule 3335-8-23](#), the [CPH Graduate Student Handbook](#), and the [CPH Undergraduate Student Handbook](#). Grievances against graduate, research, and teaching

assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office:

Online reporting form at <http://civilrights.osu.edu/>,
Call 614-247-5838 or TTY 614-688-8605,
Or Email civilrights@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Course Schedule (subject to change; most current version is always posted to Carmen)

Week	Date	Topic	Assignment
1	Tues – 8/26	Lecture 1: Introduction SAS Interface Structure and basic syntax Temporary versus permanent datasets Creating permanent datasets (LIBNAME)	Homework 1 assigned
	Wed – Thur 8/27 – 8/28	Lab 1	Lab 1 (due by 11:59pm)
2	Tues – 9/2	Lecture 2: Reading data into SAS Reading internal raw data (DATALINES) Reading raw data from external files (e.g., Excel, text files) Enhancing the program using comment statements	
	Wed – Thur 9/3 – 9/4	Lab 2	Lab 2 (due by 11:59pm)
3	Tues – 9/9	Lecture 3: Managing datasets–I Subsetting datasets (IF, WHERE) Splitting datasets (IF-THEN, OUTPUT) Stacking datasets Interleaving datasets (PROC SORT, BY)	Homework 1 due by 11:59pm Homework 2 assigned
	Wed – Thur 9/10 – 9/11	Lab 3	Lab 3 (due by 11:59pm)
4	Tues – 9/16	Lecture 4: Managing datasets–II Merging datasets (MERGE) One-to-One match merge One-to-Many match merge	
	Wed – Thur 9/17 – 9/18	Lab 4	Lab 4 (due by 11:59pm)
5	Tues – 9/23	Lecture 5: Using SAS dataset options Selecting and renaming variables (KEEP, DROP, RENAME) Selecting observations (WHERE) Labeling datasets and variables	Homework 2 due by 11:59pm Homework 3 assigned
	Wed – Thur 9/24 – 9/25	Lab 5	Lab 5 (due by 11:59pm)
6	Tues – 9/30	Lecture 6: Performing conditional processing Create new variables (IF, ELSE IF) Using Boolean logic (AND, OR, NOT) The IN operator	
	Wed – Thur 10/1 – 10/2	Lab 6	Lab 6 (due by 11:59pm)
7	Tues – 10/7	Lecture 7: Using SAS functions–I Numeric functions Character functions	Homework 3 due by 11:59pm Homework 4 assigned
	Wed – Thur 10/8 – 10/9	Lab 7	Lab 7 (due by 11:59pm)

8	Tues – 10/14	Lecture 8: Using SAS functions–II Character functions (continued) Working with dates	
	Wed – 10/15	Lab 8	Lab 8 (due by 11:59pm)
	Thur – 10/16	No Class – Autumn Break	
9	Tues – 10/21	Lecture 9: Simplifying programs with Arrays Array-Do loop Shortcuts for lists of variable names	Homework 4 due by 11:59pm Homework 5 assigned
	Wed – Thur 10/22 – 10/23	Lab 9	Lab 9 (due by 11:59pm)
10	Tues – 10/28	Lecture 10: Describing your data–I Summary statistics for numeric data (PROC MEANS) Graphic displays of numeric data Creating formats	
	Wed – Thur 10/29 – 10/30	Lab 10	Lab 10 (due by 11:59pm)
11	Tues – 11/4	Lecture 11: Describing your data–II Cross-tabulations for categorical data (PROC FREQ) Graphic displays for categorical data	Homework 5 due by 11:59pm Homework 6 assigned
	Wed – Thur 11/5 – 11/6	Lab 11	Lab 11 (due by 11:59pm)
12	Tues – 11/11	Lecture 12: Using basic statistical procedures–I PROC UNIVARIATE; PROC TTEST PROC CORR (Recorded due to Veterans Day – No Class)	
	Wed – Thur 11/12 – 11/13	Lab 12	Lab 12 (due by 11:59pm)
13	Tues – 11/18	Lecture 13: Using basic statistical procedures–II PROC ANOVA PROC FREQ/CHISQ	Homework 6 due by 11:59pm Homework 7 assigned
	Wed – Thur 11/19 – 11/20	Lab 13	Lab 13 (due by 11:59pm)
14	Tues – 11/25	Lecture 14: Special topics–I Regression modeling (PROC REG, PROC LOGISTIC)	Final project assigned on 11/25
	Wed – 11/26	Thanksgiving Break – No Class	
	Thur – 11/27	Thanksgiving Day – No Class	
	Fri – 11/28	Indigenous Peoples’ or Columbus Day – No Class	
15	Tues – 12/2	Lecture 14: Special topics–I (continued) Regression modeling (PROC REG, PROC LOGISTIC)	Homework 7 due by 11:59pm
	Wed – Thur 12/3 – 12/4	Lab 14	Lab 14 (due by 11:59pm)
16	Tues – 12/9	Final Project	Final project due by 11:59pm*

*Deadline may be extended if specific circumstances warrant – must contact instructor in advance.

Alignment of Course Assessments with Degree Program Competencies

	Computer Labs (N=14)	Homeworks (N=7)	Final Project (N=1)
Foundational MPH Competencies			
Analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming and software, as appropriate (3)	X	X	X
Interpret results of data analysis for public health research, policy or practice (4)	X	X	X
MPH BIO Specialization Competencies			
Use computational methods to effectively analyze complex public health and medical data (5)	X	X	X
MS BIO Specialization Competencies			
Use computational methods to effectively analyze complex public health and medical data (9)	X	X	X