



EPIC-S Pre

Start of Block: required_masder_consent

consent

Environment, Pedagogy, Institution, Course Inventory for Statistics Pre-Course Inventory

Title of research study: Developing Validated Instruments to Measure Student/Faculty Attitudes in Undergraduate Statistics and Data Science Education **IRB #:** IRB-FY2025-79

Investigator: Michael A. Posner, Professor of Statistics and Data Science, michael.posner@villanova.edu, 610-519-3016 **Key Information:** This study involves research and is voluntary. You can stop at any time without penalty. **Purpose of the Research:** We are gathering data on attitudes toward statistics. We are interested in (1) what these attitudes are, and (2) how attitudes relate to student and instructor characteristics and classroom environment. The following inventory asks about the learning environment, pedagogical practices, and other course characteristics. **Procedures:** The entire survey should take about 20 minutes to complete. We request that you complete every item, but you are not required to do so. Your survey responses may be linked with other data collected as a part of this study. You have been asked to give us your name and email address. The purpose is to verify your participation in this study, and to link your survey responses with any other responses you complete as part of this project. The EPIC inventory is administered in a pre-course and post-course format which we will link together. A dataset that excludes all personal identifying information will be made publicly available for educational researchers. The study investigator may grant access to approved researchers to use identifiable data for validated studies after a Data Use Agreement has been signed. **Risks / Discomforts:** This study is educational research and does not have any known associated risks. **Benefits to Prospective Subjects and/or to Others:** By filling out this survey, you may gain deeper insights into your pedagogical practices. Your responses may also aid statistics education researchers in improving instruction in statistics courses. For Villanova-specific resources and other mental health resources, visit the Villanova IRB website. To view these online, navigate to irb.villanova.edu and click "Participating in a Research Study." As a participant in research, you have rights. Visit the Villanova IRB website to read the Participant Bill of Rights. To read online, navigate to



irb.villanova.edu and click "Participating in a Research Study." **Consent will be given through clicking "I accept" on Qualtrics surveys, by selecting one of the following options:** I have read and understand the terms and conditions of this research study and agree to participate. I understand my participation is voluntary and that I may withdraw at any time without penalty. By clicking "yes" I am indicating my permission to participate in this study.

- ☐ Yes: I agree to participate. (1)
- ☐ No: I do not agree to participate. (2)

End of Block: required_masder_consent

Start of Block: required_course_info

intro **You are filling out the pre EPIC-S for $\{e://Field/CourseName\}$ ($\{e://Field/CoursePrefixNum\}$).**





audience This course is designed *primarily* for what type of students? (Choose the option that *best* fits your course.)

- ☐ General audience (1)
- ☐ Statistics or Biostatistics or Data Science (2)
- ☐ Mathematics or Engineering (3)
- ☐ Computer Science (4)
- ☐ Life Sciences (5)
- ☐ Business (6)
- ☐ Health Sciences (including Nursing) (7)
- ☐ Social Sciences (including Psychology) (8)





math_prerequ What is the **required mathematics** prerequisite for this course? (Please check all that apply.)

- ☐ None (0)
- ☐ Calculus (1)
- ☐ Other Math (Besides Calculus, such as High School Algebra or College Algebra) (2)
- ☐ Placement Exam (3)



stat_prereq What is the **required statistics** prerequisite for this course?

- ☐ None (0)
- ☐ Introductory Statistics Course (1)
- ☐ Statistics Course Beyond the Introductory Level (2)

textbook List the name(s) of the required **textbook(s)** that is used for this course.





course_credits How many **credits/units** is this course? (If this course has non-standard units, please adjust to standard units. Note, 3 or 4 credits are common values.)



course_weeks For how many **weeks** does this course meet? (Please include finals week if you have one.)





student_support Is there **additional** support available to students for this course beyond instructor or teaching assistants' office hours? Please select all that apply.

- ☐ No, there is no additional support. (0)
- ☐ Yes, free tutoring is offered for this course. (1)
- ☐ Yes, the course has undergraduate supplemental instructors or learning assistants. (2)
- ☐ Yes, a corequisite support course is offered, but not required. (3)
- ☐ Yes, a corequisite support course is required. (4)
- ☐ Yes, this course is offered as a stretch course (a one-semester course split over 2 semesters). (5)





software What type of **statistical software** are students *required* to use in this course when analyzing data? Select all that apply.

- ☐ No statistical software (0)
- ☐ Graphing Calculator (statistical functions like ttest, etc) (1)
- ☐ Minitab (2)
- ☐ JMP (3)
- ☐ SAS (4)
- ☐ SPSS (5)
- ☐ Excel (6)
- ☐ R (7)
- ☐ Python (8)
- ☐ Applets (9)
- ☐ StatCrunch (10)
- ☐ Tableau (11)
- ☐ SALT (Statistical Analysis and Learning Tool) (13)



- ☐ StatKey (14)
 - ☐ JASP (15)
 - ☐ TinkerPlots (16)
 - ☐ ISLE (Integrated Statistics Learning Environment) (17)
 - ☐ GeoGebra (18)
 - ☐ Rguroo (19)
 - ☐ Jamovi (20)
 - ☐ Other (12) _____
-



objective Rate your agreement to this statement: "A main objective of this course is for students to conduct statistical analyses **independently**."

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Neither agree nor disagree (3)
- ☐ Agree (4)
- ☐ Strongly agree (5)



sbi Which of the following best describes the way **simulation** is used in your course?

- ☐ I **never use simulation** in my class. (1)
- ☐ I only use simulation for purposes other than statistical inference, that is, for probability, sampling variability, central limit theorem, etc. (2)
- ☐ I primarily use parametric models for statistical inference, but sometimes use simulation methods. (3)
- ☐ I use both simulation methods and parametric models for statistical inference. (4)
- ☐ I primarily use simulation methods for statistical inference, but sometimes use parametric models. (5)
- ☐ I **always use simulation** methods for statistical inference. I never use parametric models. (6)



lab_req Do you have **lab / recitation / discussion** sections for this course?

- ☐ No (0)
- ☐ Yes, led by the course instructor (1)
- ☐ Yes, led by a graduate teaching assistant(s) who is not the course instructor (2)
- ☐ Yes, led by undergraduate teaching assistant(s) (3)

Skip To: End of Block If Do you have lab / recitation / discussion sections for this course? = No

lab_length How many minutes per week do students spend in lab / recitation / discussion?

End of Block: required_course_info

Start of Block: required_verify_section





sections_taught You are completing the EPIC-S pre-survey for the following sections of `#{e://Field/course_prefix_num}`: `#{e://Field/course_name}` (`#{e://Field/course_descr}`). The next page will ask you about the first section listed below.

☐

Section `#{e://Field/sec_id_1}`: `#{e://Field/sec_desc_1}` (1)

Display this choice:

If sec_id_2 Is Not Empty

☐

Section `#{e://Field/sec_id_2}`: `#{e://Field/sec_desc_2}` (2)

Display this choice:

If sec_id_3 Is Not Empty

☐

Section `#{e://Field/sec_id_3}`: `#{e://Field/sec_desc_3}` (3)

Display this choice:

If sec_id_4 Is Not Empty

☐

Section `#{e://Field/sec_id_4}`: `#{e://Field/sec_desc_4}` (4)

Display this choice:

If sec_id_5 Is Not Empty

☐

Section `#{e://Field/sec_id_5}`: `#{e://Field/sec_desc_5}` (5)

Display this choice:

If sec_id_6 Is Not Empty

☐

Section `#{e://Field/sec_id_6}`: `#{e://Field/sec_desc_6}` (6)

Display this choice:

If sec_id_7 Is Not Empty

☐

Section `#{e://Field/sec_id_7}`: `#{e://Field/sec_desc_7}` (7)



Display this choice:

If sec_id_8 Is Not Empty

☐

Section \${e://Field/sec_id_8}: \${e://Field/sec_desc_8} (8)

Display this choice:

If sec_id_9 Is Not Empty

☐

Section \${e://Field/sec_id_9}: \${e://Field/sec_desc_9} (9)

Display this choice:

If sec_id_10 Is Not Empty

☐

Section \${e://Field/sec_id_10}: \${e://Field/sec_desc_10} (10)

End of Block: required_verify_section

Start of Block: required_course_section_items

section_reminder Please answer the following questions based on the [\\${Im://Field/1}](#) section of your course.



classsize_pre How many students do you expect to enroll in this section? (This value will be used to calculate response rate.)



honors_sec Is this section an honors section?

- ☐ Yes (1)
- ☐ No (2)

modality In which **modality** is your class being offered?

- ☐ Face-to-face (1)
- ☐ Virtual, Asynchronous (2)
- ☐ Virtual, Synchronous (3)
- ☐ Hyflex (synchronous, but virtual OR face-to-face participation) (4)
- ☐ Hybrid (some face-to-face synchronous component, and some asynchronous component) (5)

Skip To: End of Block If In which modality is your class being offered? = Virtual, Asynchronous

section_times When does this section meet? Do *not* include lab / recitation / discussion meeting times. Please use only as many rows as needed to completely list the schedule for this section.

	Day of Week	Start Time	End Time



		Hour (1)	Minute (2)	Hour (1)	Minute (2)
First Meeting (1)	▼ Monday (1 ... NA (8)				
Second Meeting (2)	▼ Monday (1 ... NA (8)				
Third Meeting (3)	▼ Monday (1 ... NA (8)				
Fourth Meeting (4)	▼ Monday (1 ... NA (8)				
Fifth Meeting (5)	▼ Monday (1 ... NA (8)				
Sixth Meeting (6)	▼ Monday (1 ... NA (8)				



End of Block: required_course_section_items

Start of Block: optional_add_questions
