MATH 1300 vs. 1350

The UNM Mathematics department offers two introductory statistics courses.
Both are good courses. They have different audiences.

- **Math 1350: INTRODUCTION TO STATISTICS.** A traditional introductory statistics course. *This course is designed for **producers of statistics*** or those who will deal with research results based on clinical trials. It focuses on randomness: random sampling and random assignment. Data from these sources will be used to infer and test claims about the properties of the population. This course provides a more rigorous foundation for those in quantitative majors, taking additional statistics courses, or going to graduate school. See https://math.unm.edu/courses/materials/math-1350-introduction-statistics

- **Math 1300: STATISTICAL LITERACY**. A **new** non-traditional introductory statistics course. *This course is designed for the **consumers of statistics**.* This critical thinking course focuses on reading, interpreting and evaluating the social statistics in the everyday media. It focuses on the influence of confounders and assembly: how things are defined, counted or measured. The focus is on observational studies and quasi-experiments. This literacy course uses ordinary English to distinguish association from causation, and to describe and compare percentages and rates in statements, tables and graphs. It uses simple mathematical techniques to control for the influence of confounders on an association and statistical significance. http://catalog.unm.edu/catalogs/2021-2022/courses/MATH/1300.html

These courses are different (only a 30% overlap). So which majors should take which course?

- **Students strongly recommended to take MATH 1350: Traditional Statistics**. *Students in quantitative majors: Psychology, Sociology, Social Work, Economics and Business (Finance or Accounting).* These students are likely to need this more-focused and rigorous foundation for subsequent courses or for grad school.

- **Students strongly recommended to take MATH 1300: Statistical Literacy** *Students in non-quantitative majors: journalism, political science, history, English, etc.* This argument-based course is helpful in analyzing studies, policies and strategies.

Both courses are suitable for business students majoring in Management, Marketing, Information Systems or International Business.

Statistical Literacy (MATH 1300) has been approved as satisfying a mathematics or statistics course in the UNM core curriculum and in the New Mexico General Education curriculum.

2021 **Statistical Literacy** UNM ABQ

MATH 1300

Statistical Literacy, is *a new course* offered for the first time at UNM in fall 2021. Statistical Literacy involves critical thinking about everyday statistics as evidence in arguments.

Statistical Literacy has been *approved* as satisfying a mathematics course in the *UNM core curriculum and* in the *General Education curriculum* for the state of New Mexico.

Statistical Literacy is *a different course* with less than a 30% overlap with Math 1350.

Statistical Literacy is *a challenging course.* It uses ordinary English in a very precise ways. Students will write two short essays each week on various social statistics.

Statistical Literacy *uses middle-school mathematics* (weighted averages) to do multivariable analysis: to take into account the influence of a third factor on an association.

Statistical Literacy focuses on *social statistics:* statistics involving health, births and deaths, income, assets, education, marriage, single-parent families, crime, etc. Statistics that are used in arguments involving social policies.

Statistical Literacy has a *unique audience: statistical consumers*. Students in non-quantitative majors (journalism, political science, history, etc.). Optional for management/marketing majors.

Catalog description:

Description: Participants will study social statistics encountered by consumers. Study statistics as numbers in context and as evidence in arguments. Study influences on statistics and techniques to mitigate these influences. Strong focus on confounding.
http://catalog.unm.edu/catalogs/2021-2022/courses/MATH/1300.html

Goals: To help students think critically about statistics as evidence in arguments: to see the story behind the story. To help students see value in becoming statistically literate.

Objectives: Can use ordinary English to distinguish association from causation and to form arithmetic associations of numbers and ratios. Can identify and evaluate influences (confounding, assembly, randomness and error/bias) on a statistic. Can identify, evaluate and use various techniques to control these influences. Can use ordinary English to describe and compare statistics as presented in statements, tables and graphs. Can evaluate the strength of evidence provided by statistics in the everyday media, press releases and journal articles.