A PRE-STATS BRIDGING COURSE:
Consider a new pre-statistics bridging course – a course taken before the first course on statistical inference. This bridging course excludes hypothesis tests, confidence intervals, sampling distributions and the binomial distribution.

This bridging course covers descriptive statistics and statistical modeling. The focus is on statistical association, probabilistic causation and their relationship.

The purpose of this survey is to identify the content for this course – not the pedagogy or the technical tools involved.

THE EVALUATION:
Given *the goals of this course*, evaluate the importance of various topics on a letter scale
(a) Most important Conceptually critical.
(b) Quite important: Fundamental, useful, and important. Good building block.
(c) Moderately important: Elective topic.
(d) Not very important. Could easily be omitted; not very relevant, useful or understandable.
(e) Do not include. Not relevant, useful, valuable or intelligible at this level.
(f) Topic is unfamiliar, ambiguous, or unintelligible to the reviewer.

THE RESULTS: Please return a copy of your survey to Milo Schield
1. in person,
2. by mail [Mail to Dept. of Business Administration, Augsburg College, Mpls, MN 55454],
3. by fax [Fax to 612: 330-1607], or
4. by email. [Key in your answers and send to schield@augsburg.edu]

Add any topics that you think should have been included:

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1. ___ **Philosophy of Science**
2. ___ inference: generalize, predict, etc.
3. ___ association vs. causation
4. ___ causes: determinate / probabilistic
5. ___ common cause (lurking variable)
6. ___ fishbone (causal) diagrams

7. ____ **Foundations of statistics**
8. ___ experiment vs. observational study
9. ___ natural experiments
10. ___ study: cross-sectional/longitudinal
11. ___ study: prospective vs. retrospective
12. ___ control group (controlled study)
13. ___ control for (take account of)
14. ___ matching, test-retest
15. ___ placebo and placebo effect
16. ___ Hawthorne & halo effects
17. ___ single and double blind studies
18. ___ random assignment
19. ___ population vs. sample
20. ___ parameter vs. statistic
21. ___ random error (sampling error)
22. ___ bias : measurement error, etc.
23. ___ confounding: spurious association
24. ___ representative sampling/sample
25. ___ random sampling/sample
26. ___ data types: quality vs. quantity
27. ___ constructs (psych., sociology, etc.)
28. ___ reliability versus validity

29. ___ **Reading count-based data**
30. ___ exclusive and exhaustive
31. ___ intersection and union
32. ___ forming comparisons
33. ___ reading and comparing counts
34. ___ describing part-whole percentages
35. ___ creating percentages from counts
36. ___ comparing percentages
37. ___ risk and relative risk
38. ___ odds and odds ratio
39. ___ reading and comparing rates

40. ___ **Interpret rates, percents, counts**
41. ___ risk as a measure of association
42. ___ percentage attributable to
43. ___ Simpson paradox; ecological fallacy
44. ___ Bayes' Rule and medical tests
45. ___ prosecutors fallacy
46. ___ over-involvement ratios

47. ___ **Read/interpret quantitative data**
48. ___ frequency distribution
49. ___ bar charts, histograms
50. ___ shape: symmetric/asymmetric/skew
51. ___ percentiles: calculate/compare
52. ___ mean and median
53. ___ mode and mid-range
54. ___ mid-interquartile range
55. ___ geometric mean
56. ___ minimum, maximum and range
57. ___ mean absolute deviation
58. ___ variance
59. ___ standard deviation
60. ___ coefficient of variation: stdev/mean
61. ___ inter-quartile range (IQR)
62. ___ skewness: 3*(mean-median)/stdev.
63. ___ standard deviation of binary data
64. ___ outlier and trimmed mean
65. ___ normalizing (z scores)
66. ___ standardizing to new mean & StdDev
67. ___ bell-shaped distribution: 1/2/3 rule
68. ___ prediction interval
69. ___ median overlap
70. ___ algebraic models of table data
71. ___ Normal distribution
72. ___ Log-normal & exponential
73. ___ Plots: quantile and quantile-normal

74. ___ **Simple least-squares regression**
75. ___ correlation
76. ___ slope of regression
77. ___ b = r * (s-sub-y)/ (s-sub-x)
78. ___ s_y-hat = s_y*sqrt(1 minus r-squared)
79. ___ Prediction and prediction interval
80. ___ R^2 (explanatory power of a model)
81. ___ regression to the mean (test/retest)

82. ___ **Multivariate Analysis (& Misc)**
83. ___ partial correlation & partial slope
84. ___ stepwise least-squares regression
85. ___ logistic regression
86. ___ Plot: Chance vs. Z, 2 factors (Bell Curve)
87. ___ cluster analysis
88. ___ discriminant analysis
89. ___ quality/reliability analysis
90. ___ read/interpret longitudinal graphs
91. ___ read/interpret cross-sectional graphs
92. ___ read/interpret news stories with stats.