INDIANA UNIVERSITY OF PENNSYLVANIA
MATHEMATICS DEPARTMENT

COURSE NUMBER: MA 217

COURSE TITLE: Probability and Statistics (non-Math majors)

CREDITS: 3 semester hours

CATALOG DESCRIPTION:

testing hypotheses, correlation, and regression; emphasis on
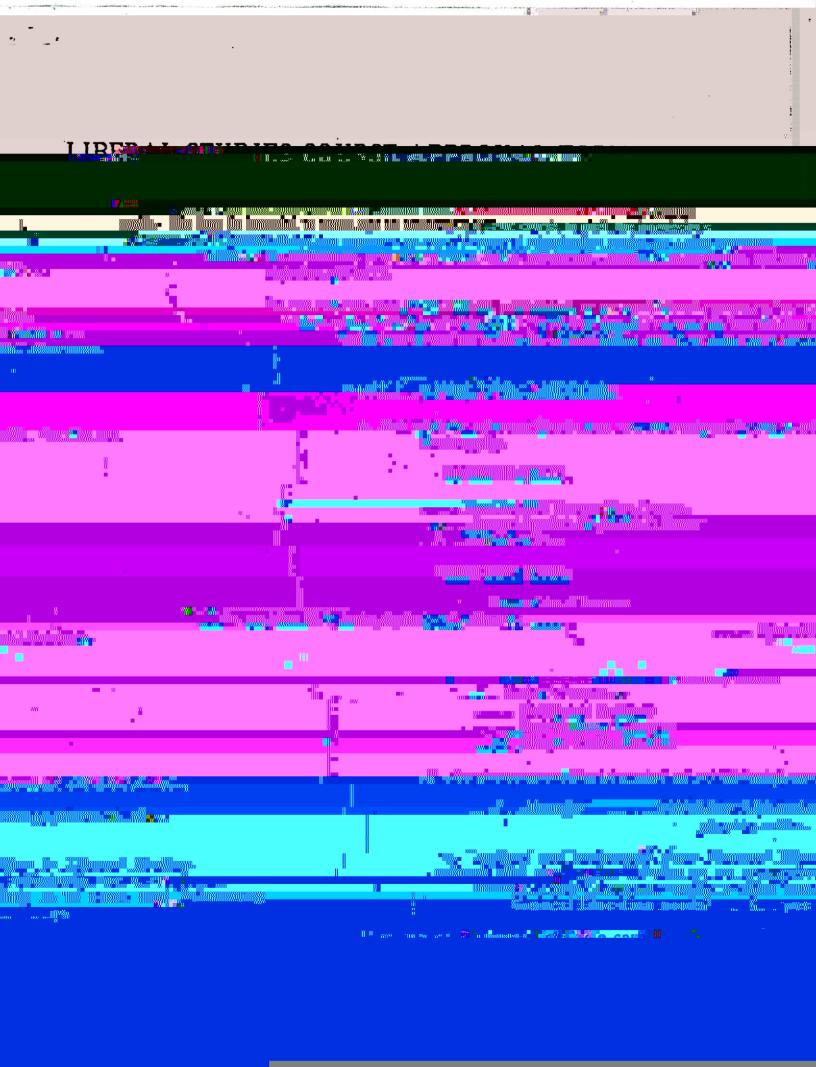
IV.   Sampling Distributions - 3 days
        A.   Central Limit Theorem
        B.   Sampling distribution of the sample mean
        C.   Sampling distribution of the sample proportion

V.   Estimation of Population Parameters - 3 days

        A.   Point Estimation

        B.   Interval estimation for population mean and
            population proportion.

VI.   Hypothesis Testing - 8 days
        A.   Population mean
           1. Large-sample with σ unknown.
           2. Small-sample with σ unknown.
        B.   Population proportion
        C.   Population variance
        D.   Difference between two population means for both
            independent samples and dependent samples.
        E.   Difference between two population proportions
        F.   p-value and Type I, II errors
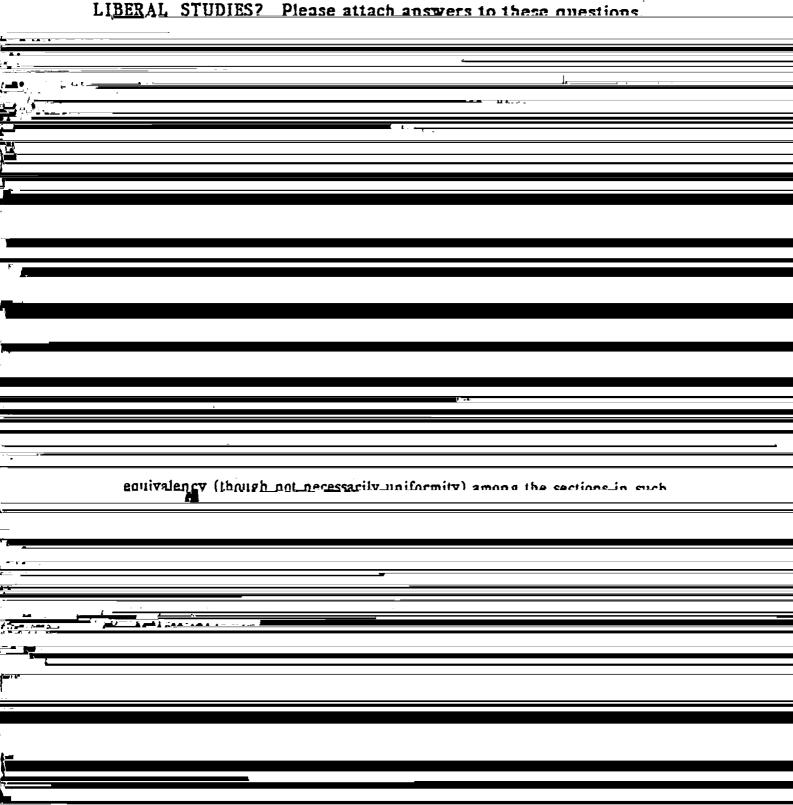
VII.   One-way Analysis of Variance - 1 day

VIII.   Chi-Square Test for Goodness of Fit

PART II. WHICH LIBERAL STUDIES GOALS WILL YOUR COURSE

MEET? Check all that apply and attach an explanation.
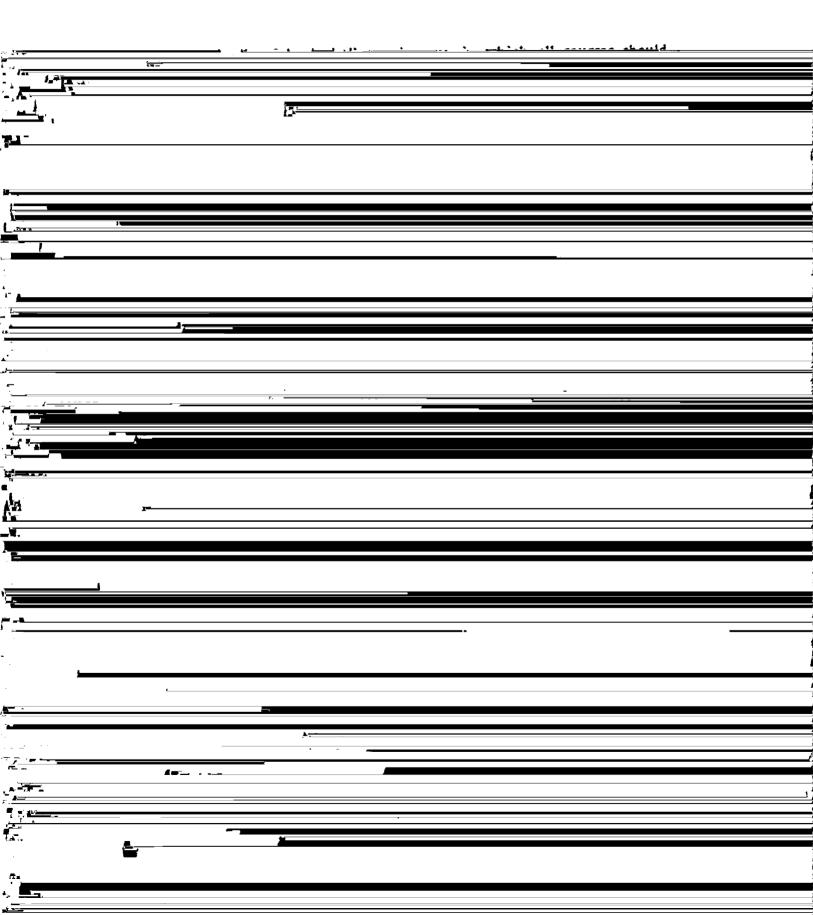
All Liberal Studies courses must contribute to at least one of these goals; most will

PART III. DOES YOUR COURSE MEET THE GENERAL CRITERIA FOR LIBERAL STUDIES? Please attach answers to these questions.

equivalency (though not necessarily uniformity) among the sections in such

A.   There will be a common syllabi of topics that should be covered by
each of the individual instructors teaching this course. Sub

to recognize creativity and to engage in creative thinking.
#5.- One is constantly exposed to information which needs the
principles of mathematics for proper interpretation. Skills
mastered in this course can last one a life time.

ADDENDUM TO LIBERAL STUDIES PROPOSALS: PART III

B.   Whenever appropriate, information will be introduced into the
classroom discussion which will reflect the contributions made to
mathematics by women and by minorities. Particular attention will be given
to the following areas:

CHECK LIST -- MATHEMATICS
(Learning Skills Area)

Mathematics Criteria which the Course must meet:

___X___ Introduce students to deductive reasoning

___X___ Develop in the student problem solving techniques appropriate for the course.

___X___ Enable the student to understand the underlying principles of formulas.

___Y___ Enable the student to use and interpret numerical information.

Courses appropriate to the Mathematics Learning Skills Area must be

_____ **A.** Mathematics courses that develop signficant mathematical skills required by a major discipline.

___X___ **B.** Mathematics courses designed for Liberal Studies.