STAT - STATISTICS AND PROBABILITY

STAT100 Elementary Statistics and Probability (3 Credits)
Prerequisite: MATH110, MATH112, MATH113, or MATH115; or permission of CMNS-Mathematics department; or must have math eligibility of STAT100 or higher and math eligibility is based on the Math Placement Exam or the successful completion of Math 003 with appropriate eligibility.
Restriction: Must not have completed MATH111; or must not have completed any MATH or STAT course with a prerequisite of MATH141.
Credit Only Granted for: STAT100, MATH107 or MATH111.

STAT386 Experiential Learning (3-6 Credits)
Prerequisite: Must have learning proposal approved by the CMNS-Mathematics Department.

STAT400 Applied Probability and Statistics I (3 Credits)
Random variables, standard distributions, moments, law of large numbers and central limit theorem. Sampling methods, estimation of parameters, testing of hypotheses.
Prerequisite: 1 course with a minimum grade of C- from (MATH131, MATH141); or students who have taken courses with comparable content may contact the department.
Credit Only Granted for: BMGT231, ENEE324, or STAT400.
Additional Information: Not acceptable toward graduate degrees in MATH/STAT/AMSC.

STAT401 Applied Probability and Statistics II (3 Credits)
Prerequisite: 1 course with a minimum grade of C- from (STAT400, STAT410).
Additional Information: Not acceptable toward graduate degrees in MATH/STAT/AMSC.

STAT410 Introduction to Probability Theory (3 Credits)
Prerequisite: 1 course with a minimum grade of C- from (MATH240, MATH461, MATH341); and 1 course with a minimum grade of C- from (MATH340, MATH241). Cross-listed with SURV410.
Credit Only Granted for: STAT410 or SURV410.

STAT420 Theory and Methods of Statistics (3 Credits)
Prerequisite: 1 course with a minimum grade of C- from SURV410, STAT410). Cross-listed with SURV420.
Credit Only Granted for: STAT420 or SURV420.

STAT430 Introduction to Statistical Computing with SAS (3 Credits)
Descriptive and inferential statistics. SAS software: numerical and graphical data summaries; merging, sorting and splitting data sets. Least squares, regression, graphics and informal diagnostics, interpreting results. Categorical data, lifetime data, time series. Applications to engineering, life science, business and social science.
Prerequisite: 1 course with a minimum grade of C- from (STAT400, STAT410).

STAT440 Sampling Theory (3 Credits)
Prerequisite: 1 course with a minimum grade of C- from (STAT401, STAT420).
Credit Only Granted for: STAT440 or SURV440.

STAT464 Introduction to Biostatistics (3 Credits)
Prerequisite: Must have completed one semester of calculus.
Restriction: Junior standing or higher.
Credit Only Granted for: BIOE372 or STAT464.
Additional Information: Not acceptable toward degrees in MATH/STAT.

STAT470 Actuarial Mathematics (3 Credits)
Major mathematical ideas involved in calculation of life insurance premiums, including compound interest and present valuation of future income streams; probability distribution and expected values derived from life tables; the interpolation of probability distributions from values estimated at one-year multiples; the 'Law of Large Numbers' describing the regular probabilistic behavior of large populations of independent individuals; and the detailed calculation of expected present values arising in insurance problems.
Prerequisite: 1 course with a minimum grade of C- from (MATH240, MATH461, MATH341); and 1 course with a minimum grade of C- from (MATH340, MATH241).
Recommended: STAT400.

STAT498 Selected Topics in Statistics (1-6 Credits)
Topics of special interest to advanced undergraduate students will be offered occasionally under the general guidance of the MATH/STAT major committee. Students register for reading in statistics under this number.
Restriction: Permission of CMNS-Mathematics department.
Repeatable to: 16 credits.