I.   **COURSE INFORMATION**
   A. Physical Science 204 Engineering Physics I
   B. 5 credit hours
   C. Serway, Raymond and John W. Jewett. *Physics for Scientists and Engineers*. 9th ed. Boston: Cengage, 2009
   D. Prerequisite: MAT 123 Calculus w/Analytic Geom I, completion of at least one class in both Algebra and Trigonometry. Concurrent enrollment in MAT 123 can be done with permission of the instructor
   E. KRSN: PHY 1030 Engineering Physics I with Lab

   The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

II.   **COURSE DESCRIPTION**
   This course explores mechanics and heat. The course is commonly required of engineers and health science majors.

III.   **LEARNING OUTCOMES**
   A. Evaluate situations involving Engineering Physics I topics by choosing the appropriate conceptual frameworks
   B. Recall relevant physical models and to successfully apply these models using techniques of symbolic and numerical analysis in order to generate solutions to problems in Engineering Physics I topics
   C. Think critically by utilizing problem solving techniques to evaluate and analyze context rich, multi-step problems in Engineering Physics I topics, selecting relevant information, selecting an approach to solving the problem and carrying out the analysis needed to generate and communicate solution(s)
   D. Perform measurements using physical apparatus, analyze the collected data including appropriate treatment of errors and uncertainties, generate and communicate conclusions based on the data and analysis for experimental investigations in Engineering Physics I topics

IV.   **MAJOR CONTENT AREAS**
   A. Physical quantities
   B. Bodies at rest
   C. Uniformly accelerated motion
   D. Newton's laws of motion
   E. Work and energy
   F. Linear momentum
   G. Rotational and orbital motion
   H. Rotational dynamics
   I. Rotational momentum and energy
   J. Oscillatory motion
   K. Continuum mechanics
   L. Ideal gases
   M. Thermal properties of matter
   N. Thermodynamics

V.   **ASSIGNMENTS** (may include but are not limited to)
   A. Reading assignments
   B. Writing assignments
   C. Discussions
   D. Laboratory exercises

VI.   **EVALUATION METHODS** (may include but are not limited to)

A. Attendance and participation
B. Assignments
C. Laboratory reports
D. Comprehensive final