1. *Course number and name*
   ENGR 290: Introduction to PSPICE

2. *Credits and contact hours*
   1 credit hours

3. *Instructor's or course coordinator's name*
   Instructor: Hao Jiang, Associate Professor
   Course coordinator: Hao Jiang, Associate Professor

4. *Text book, title, author, and year*
   J. G. Tront, *PSPICE for Basic Microelectronics*, McGraw Hill, 2007
   Web: http://www.linear.com/designtools/software/#LTspice

5. *Specific course information*
   a. *brief description of the content of the course (catalog description)*
      Introduce students to a simple computer-aided-design (CAD) circuit design tool, PSPICE or LTSPICE, to support electronic circuit analysis.

   b. *prerequisites or co-requisites*
      ENGR 205

   c. *indicate whether a required, elective, or selected elective course in the program*
      Elective for Electrical Engineering and Computer Engineering

6. *Specific goals for the course*
   a. *Specific outcomes of instruction, ex. The student will be able to explain the significance of current research about a particular topic.*
      - To do dc, transient domain, frequency domain, noise and Monte Carlo analysis of circuits with LC, diode, BJT and MOSFETs using a PSPICE or LTSPICE circuit simulator
      - To enable students to conduct circuit analysis using a PSPICE or LTSPICE circuit simulator

   b. *Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course*
      Course addresses ABET Student Outcome(s): b, c, k
      - Student understands what is PSPICE or LTSPICE and its use in industrial applications
      - Student knows how to simulate a circuit using a PSPICE or LTSPICE simulator.
      - Student can demonstrate how to simulate an actual circuit using a PSPICE or LTSPICE in laboratory setting

      Course addresses ABET Student Outcome(s): b, c, k

7. *Brief list of topics to be covered*
   - Dc analysis
   - Time domain analysis

- Frequency domain analysis
- Analysis on Diode circuits
- Analysis on BJT circuits
- Analysis on MOSFET circuits