SAMPLE SYLLABUS

This syllabus is to be used as a guideline only. The information provided is a summary of topics to be covered in the class. Information contained in this document such as assignments, grading scales, due dates, office hours, required books and materials may be from a previous semester and are subject to change. Please refer to your instructor for the most recent version of the syllabus.

ABET Course Syllabus EEE471

1. **Course: EEE 471 Power System Analysis**
2. **Credits and Contact Hours:** 3 Credit Hours (lecture), Topics: Engineering
3. **Course Coordinator:** Dr. V. Vittal, Professor
4. **Textbook:** J.D. Glover, M. Sarma, T. J. Overbye, *Power System Analysis & Design*, 5th Edition, Thomson Learning, 2008, ISBN -13: 978-1-111-42577-79 (includes all course software).
   Supplemental materials: Canvas: EEE471/591, Power System Analysis.
5. **Specific course information**
   a. **Catalog description:** Review of transmission line parameter calculation. Zero sequence impedance, symmetrical components for fault analysis, power flow analysis, power system stability, and power system control concepts.
   b. **Prerequisites or co-requisites:** EEE360.
   c. **Required/elective/selected elective:** Elective
6. **Specific goals for the course**
   Students are familiar with power system elements and have basic skills for power-system analysis
   a. **Outcomes of instruction:**
      Students are familiar with power-system elements and have basic skills for power-system analysis including proficiency in the application of power system analysis software
   b. **Outcomes of Criterion 3 addressed by the course:**
      (1) The homework assignments help the students identify, formulate, and solve engineering problems. The lectures prepare the students to understand the mathematics and physics necessary to solve a broad range of power-system problems.
      (1,2) The project trains the students to develop models appropriate to a given problem using assumptions, estimates, and approximations guided by sound engineering judgement.
7. **Brief list of topics to be covered**
   1. Review of fundamentals (2 classes)
   2. Symmetrical component fundamentals (2 classes)
   3. Transformer modeling (3 classes)
   4. Transmission line modeling (5 classes)
   5. Transmission line operation (3 classes)
   6. Power flow fundamentals (3 classes)
   7. Power flow control (2 classes)
   8. Power system stability (4 classes)
   9. Power system control (3 classes)

   Computer Usage: Application of power flow and stability programs.
   Laboratory Experiments: None.
   Course Contribution to Engineering Science and Design:
   Two projects include a skeleton high-voltage power system computer model and a set of system performance criteria. Using modern software, the student performs system analysis leading to the addition of elements and controls to the system so that it meets the criteria for stability, voltage control, and transmission line capability.

Person preparing this description and date of preparation: , June, 2021.