Shahid Chamran University of Ahvaz

Shahid Chamran University of Ahvaz
Faculty of Engineering

Course Syllabus

General information:
Course Title: **Reliability of Electric Energy Systems**
Credit Hours: **3 Credits/ 3 Hours a Week**

Instructor:
Hossein Farzin, PhD
Assistant Professor

Email Address:
Farzin@scu.ac.ir,
Farzin.hossein@gmail.com

Text Book:

1) R. Billinton and R. N. Allan, ***Reliability Evaluation of Power Systems***, Springer Science & Business Media, 2nd Edition, 1996.
2) R. Billinton and R. N. Allan, ***Reliability Evaluation of Engineering Systems: Concepts and Techniques,*** Springer Science & Business Media, 2nd Edition, 1992.

Additional References:

1) R. Billinton and W. Li, ***Reliability Assessment of Electric Power Systems Using Monte Carlo Methods***, Springer Science & Business Media, 1994.
2) W. Li, ***Risk assessment of power systems: models, methods, and applications***. Wiley-IEEE Press, 2005.
3) R. E. Brown, ***Electric power distribution reliability,*** CRC press, 2nd Edition, 2009.

Course Contents

- Introduction to Power System Reliability: Basic Concepts and Methods
- Reliability Assessment of Generating Systems
- Reliability Assessment of Interconnected Power Systems
- Determination of the Required Operating Reserve: Deterministic vs. Probabilistic Methods
- Reliability Assessment of Composite Generation and Transmission Systems
- Reliability Assessment of Distribution Systems
- Reliability Assessment of Substations
- Application of Monte Carlo Simulation
- Evaluation of Reliability Worth

Grading Policy

- Assignments 10%
- Class Project 10%
- Final Exam 50%
- Midterm Exam 30%