

CO 418 Green Computing Course Plan

1. Green Computing Introduction

- 1.1. Impact of ICT on Environment
- 1.2. Metrics for Green Computing
- 1.3. Regulations and Industry Initiatives

2. Green-* Technologies

- 2.1. Green Hardware
- 2.2. Green Software
- 2.3. Green Data Centers
- 2.4. Green Data Storage
- 2.5. Green Networks and Communications
- 2.6. Green Cloud Computing
- 2.7. Other Green Related Technologies

3. Green Software Engineering

- 3.1. Green Requirements Engineering
- 3.2. Green Software Design
- 3.3. Green Software Construction
- 3.4. Green Software Testing
- 3.5. Green Software Maintenance
- 3.6. Green Software Quality
- 3.7. Green Software Measurement

Reference Books:

1. San Murugesan, & G. R. Gangadharan (Eds.). (2012). *Harnessing Green IT: Principles and Practices*. A John Wiley & Sons, Ltd., Publication.
2. Coral Calero Munoz, & Mario Piattini (Eds.). (2015). *Green in Software Engineering*. (1st ed.). Springer International Publishing.

Web Links for similar courses:

1. <http://www.csie.ntpu.edu.tw/~yschen/course/2011-1/Green-ICT/GreenICT.html> - **Lecture Slides Available**
2. <http://www.synergylabs.org/yuvraj/courses/08-840-SP2015/lectures.html> - **Lecture Slides NOT Available**
3. <https://courses.engr.illinois.edu/cs598tar/fa2010/syllabus.html> - **Lecture Slides NOT Available**

Evaluation procedure:

Individual students: (a) Mid-sem exam 25%; (b) End-sem exam 40% , and (c) two research papers presentation cum discussion: in_class work - one in March and another one in April 10%

Group of Two students: (a) Take home / open book assignment 10% and (b) Technical Report (V1 - Mid Feb 2017, V2 - Mid March, and final V3 Mid April 2017) 15%