COURSE	Name	:	Grid Computing
	Code	:	EE185555
	Credit(s)	:	2
	Semester	:	(Elective Course)

Description of Course

This course learns about the basics of distributed computing, middleware for grid computer systems, cloud computing, cloud systems, parallel processing in cloud, distributed storage systems, virtualization, security in cloud systems, and multicore operating systems.

Learning Outcomes

Knowledge

(P01) Mastering the concepts and principles of science in a comprehensive manner, and to develop procedures and strategies needed for the analysis and design of systems related to the field of power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics as a preparation for further education or professional career.

Specific Skill

(KK01) Being able to formulate engineering problems with new ideas for the development of technology in power systems, control systems, multimedia telecommunications, electronics, intelligent multimedia network, or telematics.

General Skill

(KU11) Being able to implement information and communication technology in the context of execution of his/her work.

Attitude

(S09) Demonstrating attitude of responsibility on work in his/her field of expertise independently.

(S12) Working together to be able to make the most of his/her potential.

Course Learning Outcomes

Knowledge

Mastering the concept of Grid computer systems to solve scientific problems on a large scale.

Specific Skill

Able to install and configure a grid middleware system using Globus.

General Skill

Able to evaluate and use grid computing resources using textual and graphical interfaces.

Attitude

Demonstrating attitude of being responsible for the work in his area of expertise independently.

Working together to be able to make the most of their potential.

Main Subjects

1. The basic concept of a distributed system.
2. Cluster computing model.
3. Cluster-based grid computing.
4. The concept of Peer to peer on the Grid.
5. Grid Computing Middleware
6. Cloud Computing
7. Programming for distributed data, reduce maps.
8. Cloud security

Reference(s)

[1] K. Hwang, G. Fox and J. Dongarra, Distributed and Cloud Computing Morgan Kaufmann Publishers, 2012. (ISBN 978-0-12-385880-1
[2] Wan Fokkink, "Distributed Algorithms: An Intuitive Approach", MIT Press, 2013.

Prerequisite(s)

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