

Title:	ADVANCED MONITORING AND CONTROL
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Module Code:

Core/Elective:

<i>Aims & Objectives:</i>

Introduce the	concept of wide area monitoring and control and the supporting
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<i>Brief description of the module:</i>
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Introduction to	Wide Area Monitoring and Control (WAMC), Fundamentals
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Lecture hours:	15
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Tutorial hours:

Laboratory/Coursework hours:

Other (specify):

LEARNING OUTCOMES:

<i>Knowledge and understanding</i>

1.

identify the main components and features

2.

apply phasor measurement units and con

3.

discuss the reasons for implementing the

4.

understand the fundamental concepts an

5.

appreciate the overall dynamic behaviour

Intellectual skills

1.

design a WAMC system necessary to imp

2.

justify why the WAMC system is an optim

3.

develop

simple power system model for c

4.

evaluate

power system design, dynamic p

5.

make

improvements of power system des

Practical skills

1.

select

a suitable architecture of a WAMC

2.

use

a commercial software to analyse the

3.

u

se

commercial software for p

Transferable skills and personal qualities

1.

understand

differences between theoretical

2.

ability

to adopt and successfully use wide

3.

multidisciplinary

approach to solving com

OUTLINE SYLLABUS:

Introduction on power system needs for Wide Area

Fundamentals of synchronized measurement tech

System design of WAMC systems (2);

Off-line and real-time WAMC applications (2)

Case studies of WAMC and standardisation (1)

Power System Stability - Basic Concepts (1): Clas

Advanced Modeling of Synchronous Machines

Enhancement of power system stability (1)

Coursework (including word length and relat

Nine hours of computer based laboratory work.

The course work contributes 30% to the final

Examinations (including examination length,

There is a 2 (3) hour written exam with 4 (5) c

Directed reading (state if material provided):

Staff involved

Module leader: Prof. J. V. Milanovic

Other staff: Prof. V. Terzija

Date of last revision:

7 April 2008