

<b>Title:</b>	ADVANCED MONITORING AND CONTROL
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<b>Module Code:</b>
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<b>Core/Elective:</b>
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<b><i>Aims &amp; Objectives:</i></b>
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Introduce the	concept of wide area monitoring and control and the supporting
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<b><i>Brief description of the module:</i></b>
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Introduction to	Wide Area Monitoring and Control (WAMC), Fundamentals
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<b>Lecture hours:</b>	15
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<b>Tutorial hours:</b>
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<b>Laboratory/Coursework hours:</b>
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<b>Other (specify):</b>
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<b>LEARNING OUTCOMES:</b>
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<b><i>Knowledge and understanding</i></b>
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1.
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identify the main components and features
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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

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## **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