

*MIT 852E Models Of Software Systems*

*By*

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**Credit units**

3

**Pre-requisite**

None

**Aim**

To explore current and emerging software models that can be used in business enterprises

**Learning Outcomes**

By the end of the course, the learner should be able to:

- i.) Argue the importance and role of various models
- ii.) Understand modeling techniques
- iii.) Explain UML modeling technique

**Content**

- ✓ Introduction foundations: define a model, proof techniques, sets, relations, functions;
- ✓ State machines: basic concepts, variations, FSP and LTSA, reasoning about state machines;
- ✓ Z: introduction to Z, Z technique, refinement and abstraction;
- ✓ Concurrency: introduction to concurrency, modeling concurrency in FSP, modeling techniques, reasoning about concurrency;
- ✓ Model checking: linear temporal logic, introduction to model checking and promela, introduction to Petri Nets;
- ✓ FM in practice: UML

**Learning and Teaching Methodologies**

Lectures, tutorials, practicals, Class discussions, Reading research

**Assessment**

Type	Weighting (%)
Examination	60
Continuous Assessment	40
Total	100

**Recommended Reading**

TITLE	AUTHOR	PUBLISHER	ISBN
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