## Subject Description Form

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>EE524</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Title</td>
<td>Open Electricity Market Operation</td>
</tr>
<tr>
<td>Credit Value</td>
<td>3</td>
</tr>
<tr>
<td>Level</td>
<td>5</td>
</tr>
<tr>
<td>Pre-requisite/Co-requisite/Exclusion</td>
<td>Nil</td>
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### Objectives
1. To enable students to establish a broad knowledge of open electricity market operation and to understand the major market models in the world.
2. To enable students to understand the key issues in open electricity market operation including deregulated power system operation, transmission pricing, procurement of ancillary services, congestion management, available transmission capacity so that students are provided with knowledge and techniques they need to meet the electric industry's challenges in the 21st century.

### Intended Learning Outcomes
Upon completion of the subject, students will be able to:

a. Acquire a good understand of different power market models and financial tools to hedge risks used in electricity supply industries.

b. Analyse the available transmission capacity and formulate equitable transmission pricing in electricity markets.

c. Assess ancillary services requirements based on security and economic considerations.

d. Present technical results in the form of technical report and verbal presentation.

### Subject Synopsis/Indicative Syllabus


### Teaching/Learning Methodology
The concept of electricity market modelling and economic analysis framework will be presented through lectures and tutorials with reference to real-life market environment. Students will be required to form groups to work through cases covering the market structure and operational aspects so as to develop ability to critically evaluate principles and operation of electricity markets. Tutorials will be structured on different sessions for better understanding on the theoretical concepts which require sufficient contribution from students. Students will also learn through active participation in the presentation of finding of their case studies.

### Assessment Methods in Alignment with Intended Learning Outcomes

<table>
<thead>
<tr>
<th>Specific assessment methods/tasks</th>
<th>% weighting</th>
<th>Intended subject learning outcomes to be assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Examination</td>
<td>60%</td>
<td>√ √ √</td>
</tr>
<tr>
<td>2. In-class test</td>
<td>20%</td>
<td>√ √ √</td>
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<tr>
<td>3. Cases study &amp; presentation</td>
<td>20%</td>
<td>√ √ √</td>
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<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>4 √</td>
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### Student Study Effort Expected

- **Class contact**:
  - Lecture/Tutorial: 33 Hrs.
  - Presentation: 6 Hrs.

- **Other student study effort**:
  - Case study and report: 12 Hrs.
  - Self-study: 48 Hrs.

- **Total student study effort**: 99 Hrs.

### Reading List and References

**Textbooks books**

**Reference books**

June 2016