## Subject Description Form

<table>
<thead>
<tr>
<th>Subject Code</th>
<th>COMP1011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Title</td>
<td>Programming Fundamentals</td>
</tr>
<tr>
<td>Credit Value</td>
<td>3</td>
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<tr>
<td>Level</td>
<td>1</td>
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<tr>
<td>Pre-requisite / Co-requisite / Exclusion</td>
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### Objectives

The objectives of this subject are to:

- provide students with knowledge on the fundamental elements in computer programming; and
- introduce advanced computer programming techniques necessary for developing more sophisticated computer application programs.

### Intended Learning Outcomes

Upon completion of the subject, students will be able to:

**Professional/academic knowledge and skills**

(a) understand the programming elements for solving computing-related problems;

(b) possess the ability to design and develop efficient computer programs for solving problems; and

(c) possess the ability to learn other high level programming languages independently.

**Attributes for all-roundedness**

(d) develop skills in problem solving using systematic approaches;

(e) identify and develop problem solutions in a logical manner; and

(f) solve complex problems in groups and develop group work.

### Subject Synopsis/Indicative Syllabus

1. Fundamentals of Computing. Basic concepts of computers and computing, compilation and interpretation, elementary programming constructs.


3. Data Collections. Structures, lists, sets and strings

4. Program Design. Problem solving, problem correctness, testing and debugging

### Teaching/Learning Methodology

This subject emphasizes both the conceptual elements in computer programming and practical experiences. Teaching includes both lectures and hands-on Lab exercises reinforcing taught concepts. Students should attend both lectures and laboratory.
Sessions. Continuous assessments help to reinforce the programming concepts and skills learned for applications.

<table>
<thead>
<tr>
<th>Assessment Methods in Alignment with Intended Learning Outcomes</th>
<th>Specific assessment methods/tasks</th>
<th>% weighting</th>
<th>Intended subject learning outcomes to be assessed (Please tick as appropriate)</th>
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<tbody>
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<tr>
<td>Continuous Assessment</td>
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<td><strong>65%</strong></td>
<td>✓</td>
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<tr>
<td></td>
<td>1. Assignments</td>
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<td>2. Quizzes</td>
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<td>3. Project(s)</td>
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<td>✓</td>
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<tr>
<td>Final Examination</td>
<td><strong>35%</strong></td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Total</td>
<td>100%</td>
<td>✓</td>
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Note: Students must pass both the continuous assessment and examination components to pass the course. The continuous assessment and the final examination will be designed to assess the specified learning outcomes. The formats may include written questions, programming exercises and quizzes.

**Student Study Effort Expected**

- **Class contact:**
  - Lecture: 39 Hrs.
  - Lab: 13 Hrs.

Other student study effort:

- Assignments, Quizzes, Projects, Exam: 68 Hrs.

Total student study effort: 120 Hrs.

**Reading List and References**

**Reference Books:**