Part I   Course Overview

Course Title:   Fundamentals of Computer Networks and the Internet

Course Code:   CS3270

Course Duration:   1 semester

Credit Units:   3 credits

Level:   B3

Proposed Area:   Arts and Humanities

Study of Societies, Social and Business Organisations

Science and Technology

Medium of Instruction:   English

Medium of Assessment:   English

Prerequisites:   Nil

Precursors:   Nil

Equivalent Courses:   Nil

Exclusive Courses:   Nil
Part II  Course Details

1. Abstract
   (A 150-word description about the course)

   This course aims to provide an introduction to the major concepts in computer networks, including the structure and main protocols of the Internet. Students will come to understand basic data communication and the techniques of building computer networks. They will also develop an appreciation of the evolution of the Internet and how it has scaled to become the premier interconnection network of the world.

2. Course Intended Learning Outcomes (CILOs)
   (CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

<table>
<thead>
<tr>
<th>No.</th>
<th>CILOs*</th>
<th>Weighting* (if applicable)</th>
<th>Discovery-enriched curriculum related learning outcomes (please tick where appropriate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Identify and explore the key technologies used in communication networks especially in local area networks and the Internet.</td>
<td>20%</td>
<td>A1</td>
</tr>
<tr>
<td>2.</td>
<td>Solve simple analytical problems in data transmission and network configurations.</td>
<td>15%</td>
<td>A2</td>
</tr>
<tr>
<td>3.</td>
<td>Apply the concepts of layer architecture in assessing the placement of network devices, protocols and services.</td>
<td>20%</td>
<td>A3</td>
</tr>
<tr>
<td>4.</td>
<td>Describe the structures and protocols used in computer networks and justify their designs in the context of a global network.</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Analyze the application of network technologies in designated scenarios and explore how these technologies support real-life applications.</td>
<td>25%</td>
<td></td>
</tr>
</tbody>
</table>

* If weighting is assigned to CILOs, they should add up to 100%.
* Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude
   Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
   Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments
   Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.
3. Teaching and Learning Activities (TLAs)
(TLAs designed to facilitate students’ achievement of the CILOs.)

Teaching pattern:
Suggested lecture/tutorial/laboratory mix: 2 hrs. lecture; 1 hr. tutorial

<table>
<thead>
<tr>
<th>TLA</th>
<th>Brief Description</th>
<th>CILO No.</th>
<th>Hours/week (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>Explain key concepts.</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>2</td>
</tr>
<tr>
<td>Tutorials</td>
<td>The tutorials provide an opportunity for the students to discuss and deepen their understanding of material learned during the lecture.</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>1</td>
</tr>
</tbody>
</table>

4. Assessment Tasks/Activities (ATs)
(ATs are designed to assess how well the students achieve the CILOs.)

<table>
<thead>
<tr>
<th>Assessment Tasks/Activities</th>
<th>CILO No.</th>
<th>Weighting*</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Assessment: 30%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assignments</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Quiz</td>
<td>✓ ✓ ✓ ✓ ✓</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Examination*: 70% (duration: 1.5 hours)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The weightings should add up to 100%.

*For a student to pass the course, at least 30% of the maximum mark for the examination must be obtained.
5. **Assessment Rubrics**

*(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)*

<table>
<thead>
<tr>
<th>Assessment Task</th>
<th>Criterion</th>
<th>Excellent (A+, A, A-)</th>
<th>Good (B+, B, B-)</th>
<th>Adequate (C+, C, C-)</th>
<th>Marginal (D)</th>
<th>Failure (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assignments</td>
<td>Ability to apply concepts learned in lectures to solve problems in data communications and networking.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
<tr>
<td>2. Quiz</td>
<td>Ability to apply concepts learned in lectures to solve well-defined problems in data communications and networking.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
<tr>
<td>3. Examination</td>
<td>Ability to apply concepts learned in lectures to solve problems in data communications and networking, including application to different network scenarios.</td>
<td>High</td>
<td>Significant</td>
<td>Moderate</td>
<td>Basic</td>
<td>Not even reaching marginal levels</td>
</tr>
</tbody>
</table>
Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus
   (An indication of the key topics of the course.)


2. Reading List
2.1 Compulsory Readings
   (Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)


2.2 Additional Readings
   (Additional references for students to learn to expand their knowledge about the subject.)