<table>
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<th>Subject Description Form</th>
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<tbody>
<tr>
<td><strong>Subject Code</strong></td>
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<td><strong>Subject Title</strong></td>
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<tr>
<td><strong>Credit Value</strong></td>
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<tr>
<td><strong>Level</strong></td>
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<tr>
<td><strong>Pre-requisite</strong></td>
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<tr>
<td><strong>Co-requisite/ Exclusion</strong></td>
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| **Objectives**           | 1. Give a practical treatment on the design, implementation, and management of IP networks.  
2. Introduce the variety of facilities, technologies, and communication systems to meet future needs of network services.  
3. Evaluate critically the performance of existing and emerging global communication networking technologies. |
| **Intended Subject Learning Outcomes** | **Upon completion of the subject, students will be able to:**  
Category A: Professional/academic knowledge and skills  
1. Describe the operational and functional attributes of different components of IP networks.  
2. Evaluate critically the design, implementation, and performance of IP networks with regard to different criteria.  
Category B: Attributes for all-roundedness  
3. Think and evaluate critically.  
4. Take up new technology for life-long learning.  
5. Work in a team, and collaborate effectively with other members. |
| **Subject Synopsis/Indicative Syllabus** | **1. Basic Protocol Functions**  
   IP address, IP datagram structure, basic IP operations, delivery and forwarding IP packets  
**2. Protocols in TCP/IP**  
   ARP, RARP, ICMP, IGMP, UDP, TCP  
**3. Routing Protocols**  
   RIP, OSPF, BGP, Multicast Routing  
**4. Applications Over TCP/IP**  
   DNS, TELNET, FTP, Email, HTTP  
**5. Other Issues About IP**  
   IP over ATM, Mobile IP, Multimedia, Voice over IP, SIP, H.323, IPv6, IPSec  
Laboratory Experiments:  
1. Voice over IP Experiment  
2. IP Security |
| **Teaching/Learning Methodology** | Lecture/Tutorial: 39 hours  
Laboratory: 2 hours  
(Equivalent to 6 hours spent by students in laboratory) |
<table>
<thead>
<tr>
<th>Assessment Methods in Alignment with Intended Subject 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>
</tr>
</thead>
<tbody>
<tr>
<td>1. Continuous Assessment (total: 40%)</td>
<td>Assignments 10%</td>
<td>✓ ✓ ✓</td>
<td>1 2 3 4 5</td>
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<tr>
<td></td>
<td>Laboratory reports 10%</td>
<td>✓ ✓ ✓ ✓ ✓</td>
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<td>Tests 20%</td>
<td>✓ ✓ ✓ ✓ ✓</td>
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<td>2. Examination 60%</td>
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<td>✓ ✓ ✓ ✓ ✓</td>
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<td>Total</td>
<td>100%</td>
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**Student Study Effort Expected**

**Class contact (time-tabled):**

- Lecture: 24 Hours
- Tutorial/Laboratory/Practice Classes: 15 Hours

**Other student study effort:**

- Lecture: preview/revision of notes; homework/assignment; preparation for test/quizzes/examination: 36 Hours
- Tutorial/Laboratory/Practice Classes: preview of materials, revision and/or reports writing: 30 Hours

**Total student study effort:** 105 Hours

**Reading List and References**


**Last Updated**

June 2015

**Prepared by**

Dr Lawrence Cheung