F20NA Network Applications

COURSE DETAILS
Course Code: F20NA
Full Course Title: Network Applications
SCQF Level: 10
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL
Undergraduate: Yes
Postgraduate Taught: Yes
Postgraduate Research: No

Additional Information:

COURSE AIMS

• To impart knowledge and understanding of the theories, principles and protocols underlying the primary network applications on the Internet
• To develop the ability to appreciate critically the range of network application technologies and standards
• To give students significant development skills in a range of the principal network technologies, to grasp the main design and practical issues faced in their application, and confer the ability to select and apply relevant techniques for a given network application development problem.
• To have students creatively develop in teams a substantial network application involving web and application server technologies to an original design of their own

LEARNING OUTCOMES – SUBJECT MASTERY

• Extensive, detailed and critical knowledge and understanding of the theories, techniques and principles underlying the design of network applications and the range of their application
• Theoretical and practical knowledge of the major network application types including email, web and chat applications and services
• Critical awareness of protocols and standards underlying key network applications especially the web and of enabling technologies for network applications such as sockets, DNS, XML
• Ability to design and develop useful network applications including web, email and chat software using apt technologies and languages: HTML, XML, JavaScript, CSS, Java applets, CGI, servlets, active web server pages, REST web services etc. to professional standards

LEARNING OUTCOMES – PERSONAL ABILITIES

• Skills in selecting, applying and evaluating apt technologies in a professional way given a problem requiring network interaction
• Ability to build on initial skills and knowledge by independent research using online resources
• Showing initiative, creativity and team working skills in shared network application development

SYLLABUS

Network services - Internet, DNS, sockets, services; e-mail - MIME, SMTP, POP, IMAP; web protocols - URIs, HTTP; web content - HTML, XML, XHTML, HTML5, CSS; web client programming - JavaScript, DOM, CSS3, DHTML; web server programming - CGI, servlets, SSI, JSP, PHP; web security - cookies, HTTP logins; textual conferencing - IM, IRC, implementing web chat; web services in XML - AJAX, SOAP, REST.
### COURSE RELATIONSHIPS

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Level</th>
<th>Title</th>
<th>School</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>F27SB</td>
<td>7</td>
<td>Software Development 2</td>
<td>School of Math and Comp Sci.</td>
<td>Pre-Requisite</td>
</tr>
<tr>
<td>F28WP</td>
<td>8</td>
<td>Web Programming</td>
<td>School of Math and Comp Sci.</td>
<td>Pre-Requisite</td>
</tr>
</tbody>
</table>

### LOCATION AND ASSESSMENT METHODS

<table>
<thead>
<tr>
<th>Y</th>
<th>Y</th>
<th>Examination</th>
<th>70</th>
<th>120</th>
<th>Assessment</th>
<th>Semester 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Y</td>
<td>Coursework</td>
<td>30</td>
<td></td>
<td>Assessment</td>
<td>Semester 2</td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td>Examination</td>
<td>100</td>
<td>120</td>
<td>Reassessment</td>
<td>Semester 3</td>
</tr>
</tbody>
</table>

Re-assessment is only for postgraduate students.