F20BD Big Data Management

**COURSE DETAILS**

- **Course Code:** F20BD
- **Full Course Title:** Big Data Management
- **SCQF Level:** 10
- **SCAF Credits:** 15
- **Available as Elective:** No

**DELIVERY LEVEL**

<table>
<thead>
<tr>
<th>Undergraduate</th>
<th>Yes</th>
<th>Postgraduate Taught</th>
<th>No</th>
<th>Postgraduate Research</th>
<th>No</th>
</tr>
</thead>
</table>

Additional Information:

**COURSE AIMS**

- Review principle abstractions, methods and techniques for the management of large and complex data sets ("Big Data").
- Develop an understanding of the foundations and tools of the Semantic Web.
- Enable students to appreciate critically a range of data integration solutions.

**LEARNING OUTCOMES – SUBJECT MASTERY**

- Knowledge and understanding of a range of data representation and data management techniques for big data sets.
- Critical understanding of the role of semantic web technologies in the context of big data management.
- Knowledge of the mechanisms that underlie data integration techniques.
- To be able to demonstrate a critical understanding of appropriateness and effectiveness of different techniques.

**LEARNING OUTCOMES – PERSONAL ABILITIES**

- Conceptualize and define new abstract problems within the context of complex data sets.
- Make informed judgements about the applicability of semantic web solutions to big data questions.
- Exercise autonomy, initiative and creativity in the application of data integration techniques.
- Demonstrate critical reflection. (PDP)
- Communicate with professional level peers, senior colleagues and specialists. (PDP)

**SYLLABUS**

**Complex data sets:**
- RDF, triple stores, SPARQL, Big Data vs Smart Data vs Broad Data, NoSQL, indexing data.

**Semantic Web Foundations:**
- RDFS, OWL, Ontologies, Reasoning, Protégé.

**Data Integration:**
- Linked Data, Mash-ups, Ontology mapping, Data Provenance.

**COURSE RELATIONSHIPS**

N/A
<table>
<thead>
<tr>
<th>Edi</th>
<th>SBC</th>
<th>Ork</th>
<th>Dub</th>
<th>Malay</th>
<th>IDL</th>
<th>COLL</th>
<th>ALP</th>
<th>OTH</th>
<th>Method</th>
<th>Weight</th>
<th>Exam Mins</th>
<th>Type</th>
<th>Diet</th>
<th>Synoptic Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Examination</td>
<td>70</td>
<td>120</td>
<td>Assessment</td>
<td>Semester 2</td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coursework</td>
<td>30</td>
<td></td>
<td>Assessment</td>
<td>Semester 2</td>
<td></td>
</tr>
</tbody>
</table>