

## Module Information

2022.01, Approved

### Summary Information

|                     |                                     |
|---------------------|-------------------------------------|
| Module Code         | 6128COMP                            |
| Formal Module Title | Innovations in Software Development |
| Owning School       | Computer Science and Mathematics    |
| Career              | Undergraduate                       |
| Credits             | 20                                  |
| Academic level      | FHEQ Level 6                        |
| Grading Schema      | 40                                  |

### Teaching Responsibility

|                                   |
|-----------------------------------|
| LJMU Schools involved in Delivery |
| Computer Science and Mathematics  |

### Learning Methods

| Learning Method Type | Hours |
|----------------------|-------|
| Lecture              | 33    |
| Practical            | 22    |

### Module Offering(s)

| Display Name | Location | Start Month | Duration Number Duration Unit |
|--------------|----------|-------------|-------------------------------|
| JAN-CTY      | CTY      | January     | 12 Weeks                      |

### Aims and Outcomes

|      |   |
|------|---|
| Aims | To investigate the role and functionality of data warehouses in support of business intelligence. To evaluate the process of extract, transform & loading in the construction of data warehouses. To investigate the differing platforms available for business intelligence reporting. To develop service oriented applications that support business intelligence dashboards. |
|------|---|

**After completing the module the student should be able to:**

**Learning Outcomes**

| Code | Number | Description  |
|------|--------|--|
| MLO1 | 1      | Investigate the construction of data warehouses in support of business intelligence. |
| MLO2 | 2      | Design reporting solutions for business intelligence.                                |
| MLO3 | 3      | Develop business intelligence dashboards through service oriented applications.      |

**Module Content**

|                        |   |
|------------------------|---|
| Outline Syllabus       | Analytical Limitations of Relational Databases Systems Business Intelligence & Analytical Database Multi-Dimensional Modelling Star & Snow Flake Schemas. Cubes Aggregations MOLAP, ROLAP & HOLAP Analytical Extensions to SQL Extract Transform & Loading Reporting Platforms Web Based Reporting Services Thin/Fat Clients & Servers Platforms for Business Intelligence Dashboards Web Services Object Relationship Mapping Object Oriented Programming Presentation of Data |
| Module Overview        |   |
| Additional Information | This module explores a growing area of database systems, that of the analytical database. It explores the rapid growth of business intelligence data and the complex data models that are needed to support it. The module continues by exploring the platforms and processes that report such data through both web based and service oriented platforms.  |

**Assessments**

| Assignment Category | Assessment Name              | Weight | Exam/Test Length (hours) | Module Learning Outcome Mapping |
|---------------------|------------------------------|--------|--------------------------|---------------------------------|
| Portfolio           | Investigation concerning ETL | 40     | 0                        | MLO1                            |
| Report              | BI Dashboard Dev             | 60     | 0                        | MLO2, MLO3                      |

**Module Contacts**

**Module Leader**

| Contact Name | Applies to all offerings | Offerings |
|--------------|--------------------------|-----------|
| Glyn Hughes  | Yes                      | N/A       |

**Partner Module Team**

| Contact Name | Applies to all offerings | Offerings |
|--------------|--------------------------|-----------|
|--------------|--------------------------|-----------|