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| **Mehran University of Engineering and Technology, Jamshoro** |
| *FRM-003/00/QSP-004*  *Dec, 01, 2001* |

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| **Tentative Teaching Plan** | | | | | | | |
| **Department of Software Engineering** | | | | | | | |
| **Name of Teacher** | Ms. Mariam Memon | | | | | | |
| **Course Name** | Cloud Computing | | **Course Code** | | SW425 | | |
| **Batch** | F16SW | **Year** | | **4th** | | **Semester** | 2nd |
| **Semester Start Date 1st June 2020 Semester End Date** | | | | | | | |

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| **#** | **Topic** | **Learning Outcome** | | **Delivery Method** | | **Lecture Hours** |
| **1** | Cloud Computing | Introduction, Cloud Systems, Cloud Systems Characteristics, Goals and Challenges, Cloud Data | | Lecture | | 2 |
| Service Models; SAAS, PAAS, IAAS, XAAS; Deployment Models; Public, Pravate, Hybrid, Community | | Lecture & Discussion | | 2 |
| Enabling Technologies; Virtualization, WEB 2.0, SOA, Distributed Computing, Utitlity Computing Networks, etc. | | Lecture and Discussion | | 2 |
| **2** | Distributed Computing | Become familiar with distributed computing distributed systems, goals of distributed computing, distributed data and databases, example applications | Lecture, Discussion | | 3 | |
| Parallel processing, Grid computing, Cluster computing, Cloud computing, Flynn’s Taxonomy and Thread programming models | Lecture & Discussion | | 2 | |
| Inter process communication, Event synchronization, Asynchronous vs synchronous operations, Blocking, Deadlocks and Timeouts | Lecture, Discussion & Tasks | | 3 | |
| **3** | Distributed Objects | Introduction to RMI, Stubs, Skeletons, Remote Reference, Locating remote or distributed objects | | Lecture & Discussion | | 2 |
| **4** | Application Development using RMI | Defining remote interface, Implementing remote interface, writing client and server, registering distributed objects. | | Lecture & Discussion | | 1 |
| **5** | RMI other considerations and CORBA | RMI over IIOP, RMI callbacks, CORBA, CORBA vs. RMI-IIOP | | Lecture and Discussion | | 3 |
| **6** | Naming and Directory Services | Introduction to Naming and Directory Services, Introduction to Java Naming and Directory Service (JNDI) | | Lecture and Discussion | | 2 |
| **7** | Introduction to XML and XML Validation | Well-formed XML, DTDs and Schemas for XML Validation | | Lecture and Discussion | | 3 |
| **8** | Introduction to XML Web Services | Introduction to SOAP, WSDL, UDDI and other service standards | | Lecture and Discussion | | 3 |
| **9** | JSPs and Servlets | Servlet terminology, API lifecycle, JSP request and response, Sessions | | Lecture and Discussion | | 3 |
| **10** | Introduction to Spring Framework | Spring framework architecture and modules | | Lecture and Discussion | | 2 |
| **11** | Spring MVC | Spring MVC lifecycle, Directory structure, example application | | Lecture and Discussion | | 3 |
| **12** | Application development using Spring MVC | Applications using multiple View pages, multiple controllers, model interface | | Lecture and Discussion | | 3 |
| **13** | Spring JDBC | Introduction to Spring JDBC template and sample application using CRUD | | Lecture and Discussion | | 2 |
| **14** | Virtualizationand Privacy | Implementing virtualization in cloud computing envirnment | | Lecture and Discussion | | 2 |
| Identifying security and privacy issues in cloud computing | | Lecture and Discussion | | 2 |

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| **Signature** | | |
| *Signature of Teacher* |  | *Dated*: |
| *Remarks of DMRC* |  | *Dated*: |
| *Signature of Chairman* |  | *Dated*: |