

COURSE CODE	COURSE TITLE	L	T	P	C
1152IT150	DESIGN & DEVELOPMENT OF CLOUD APPLICATIONS	3	0	0	3

### UNIT I - DESIGNING CLOUD BASED APPLICATIONS

Role of business analyst, requirements gathering, UML, use of state diagrams, wire frame prototypes, use of design tools such as Balsamiq. Selecting front end technologies and standards, Impact of growth in mobile computing on functional design and technology decisions.

### UNIT II - CLOUD APPLICATION DEVELOPMENT

Technical architecture considerations – concurrency, speed and unpredictable loads. Agile development, team composition (including roles/responsibilities), working with changing requirements and aggressive schedules. Understanding Model View Controller (MVC). Advanced understanding of “views”, location, and the presentation layer: Advanced Ajax and JQuery. Presenting to different browsers and devices. Localization and internationalization; Understanding client location and device type. Mobile application development – Android, iOS, WP, RIM, Symbian.

### UNIT III - STORING OBJECTS IN THE CLOUD

Session management. Advanced database techniques using MySQL and SQL Server, blob storage, table storage. Working with Third Party APIs: Overview of interconnectivity in cloud ecosystems. Working with Twitter API, Flickr API, Google Maps API. Advanced use of JSON and REST.

### UNIT IV - CLOUD APPLICATIONS AND SECURITY ISSUES

Understanding cloud based security issues and threats (SQL query injections, common hacking efforts), SSL, encrypted query strings, using encryption in the database. Authentication and identity. Use of OAuth. OpenID; Understanding QA and Support: Common support issues with cloud apps: user names and passwords, automated emails and spam, browser variants and configurations. Role of developers in QA cycle. QA techniques and technologies. Use of support forums, trouble ticketing.

### UNIT V - USE CASES

Design, develop and deploy an advanced cloud app using framework and platform of choice to demonstrate an understanding of database, presentation and logic. Application should demonstrate integration with third party API, sensitivity to geography of user (language, currency, time and date format), authentication of user, security, and awareness of client device/browser. Case Studies: Salesforce, Basecamp, Xero.com, Dropbox.

### TEXT / REFERENCES BOOKS

1. Jim Webber, SavasParastatidis, Ian Robinson, REST in Practice [ISBN: 978- 0596805821]
2. Eugenio Pace, Dominic Betts, Scott Densmore, Ryan Dunn, Masashi Narumoto, MatiasWoloski, Developing Applications for the Cloud on the Microsoft Windows Azure Platform [ISBN: 9780735656062]
3. Dan Wellman, jQuery UI 1.6 [ISBN: 9781847195128]