|  |  |
| --- | --- |
|  | DEPARTMENT OF MANAGEMENT STUDIES  NATIONAL INSTITUTE OF TECHNOLOGY  TIRUCHIRAPPALLI - 620 015, TAMIL Nadu, India |
|  | Phone : +91-431-2503700 (O) , +91-431-2503711 (Direct), Fax : +91-431-2500133 (O/o the Director), E-Mail : psridevi@nitt.edu |

|  |  |  |
| --- | --- | --- |
| **Course Code** | **:** | **MB 805** |
| **Title of the Course** | **:** | **SYSTEMS ANALYSIS AND DESIGN & CASE** |
| **Prerequisites** | **:** | Nil |
| **Trimester** |  | VI /2018 |
| **Contact Hours, Type of Course** | **:** | 30 |
| **Course Assessment Methods** | **:** | Continuous Assessment, Trimester Examination |

**Course Learning Objectives**

*To provide knowledge and necessary skills for systems development methodology and design in industry perspective and learning of use CASE tools*

**Course Content**

**Unit I Structured Analysis & Design**

Software applications today – the changing scenarios – introduction to different SDLC models – methodologies for structured system analysis – problem identification – requirement analysis: tools and techniques – feasibility analysis – functional, operational, technical and economic feasibility – mini cases.

**Unit II Object-oriented Analysis & Design**

OOAD – OO concepts – Analysis & Design Tools and Techniques for analysis design – UML notation-structured concepts – cohesion and coupling – components – functions – functional decomposition – examples and case studies – modular programming

**Unit III Database Design & Development**

Database modeling – RDBMS concepts – E-R diagrams–normalization-data flow diagrams concepts–data dictionary concepts – structure charts–transportation–analysis – entity life histories (ELH) – standards and controls.

**Unit IV System Implementation and Maintenance**

System implementation and maintenance: Implementation strategies – SW / HW selection and procurement – control and security – issues of designing and implementing on-line systems – data communication requirements – system conversion approaches and selection issues.

**UnitV System Development using CASE**

Project development selection of application – evaluation of design issues – cost/benefit analysis –project and resource planning–design and development–testing and documentation– presentation and demonstration- Agile methodologies.

**TEXT BOOKS:**

Hoffer, George & Valacich, Modern Systems Analysis & Design, 5th Edition Pearson Education, 2009

Dennis, B. Haley, D. Tegarde, Systems Analysis and Design with UML, 4th Edition, John Wiley & Sons, 2012

**REFERENCE BOOK:**

Whitten & Bentley, Systems Analysis and Design methods 6/E- McGraw Hill Publications, 2005

User Manuals of Rational Enterprise Suite (CASE)

**Course outcomes**

At the end of the course student will be able

1. to understand the methodologies involved in system development environment
2. to analyze and develop process flow diagram (DFD’s and Use Case using UML), E-R and logic diagram for system development
3. to have better understanding on any system development project

|  |  |
| --- | --- |
|  | DEPARTMENT OF MANAGEMENT STUDIES  NATIONAL INSTITUTE OF TECHNOLOGY  TIRUCHIRAPPALLI - 620 015, TAMIL Nadu, India |
|  | Phone : +91-431-2503700 (O) , +91-431-2503711 (Direct), Fax : +91-431-2500133 (O/o the Director), E-Mail : psridevi@nitt.edu |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **COURSE OUTLINE TEMPLATE** | | | | |
| **Course Title** | **SYSTEMS ANALYSIS AND DESIGN & CASE** | | | |
| **Course Code** | **MB 805** | | **No. of Credits** | **2 (weekly 4 hrs)** |
| **Department** | Management Studies | | **Faculty** | **Dr. P.SRIDEVI** |
| **Pre-requisites**  **Course Code** | **-** | | | |
| **Course Teacher(s) E-mail** | **E-Mail** | | | **psridevi@nitt.edu** |
| **Course Type** |  | Core | | |
| √ | **Elective - VI Trimester / 2018** | | |
|  | Open Elective | | |
|  | Laboratory | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **COURSE TEACHING AND LEARNING ACTIVITIES** | | | | | | |
| **Sl.No.** | **Week** | | **Topic** | | **Mode of Delivery** | |
|  | Ist week of February 2018  **Class – 1st week**  **(4 Contact Hours)** | | System development environment – introduction to different SDLC - models - methodologies for structured system analysis | | Lecture - Power Point Presentation | |
|  | **Class- 2nd week**  **(4 Contact Hours)** | | Planning - problem identification –Identifying and selecting IS projects | | Lecture - Power Point Presentation | |
|  | **Class- 3rd week**  **(4 Contact Hours)** | | Feasibility analysis – functional, operational, technical and economic feasibility – BPP-Walkthrough  **Assignment** : Allocation to groups – case study | | Lecture - Power Point Presentation  Assignment: Students should work on all concepts of SADC using given Case Study. | |
|  | **Class- 4th week**  **(4 Contact Hours)** | | Analysis – requirements determination  Requirements structuring – process modelling -DFD’s | | Lecture - Power Point Presentation | |
|  | **Class- 5th week**  **(4 Contact Hours)** | | Use Case – Logic and data modelling | | Lecture - Power Point Presentation | |
|  | **Class- 6th week**  **(4 Contact Hours)** | | Case study analysis using system development methodology – groups  Demo & Training on open source data modeler / Star UML | | Group analysis and presentation  Demo on system development tool. | |
|  | **7th week** | | **Cycle Test for VI Trimester / MBA** | | | |
|  | **Saturday & Sunday** | | **Workshop on System development using UML**  OOAD - OO concepts - Analysis & Design Tools and Techniques for analysis design – UML notation-structured concepts – cohesion and coupling | | **Guest Lecture**  **Hands on training**  (Any Saturday& Sunday of trimester) | |
|  | Class- 8th week  **(4 Contact Hours)** | | Database modeling - RDBMS concepts - E-R diagrams–normalization | | Lecture - Power Point Presentation | |
|  | Class – 9th week  **(4 Contact Hours)** | | Data dictionary concepts – structure charts–transportation–analysis – entity life histories (ELH) – standards and controls | | Lecture - Power Point Presentation | |
|  | Class - 10th week  **(4 Contact Hours)** | | System implementation strategies – SW / HW selection and procurement – control and security – issues of designing and implementing on-line systems | | Lecture - Power Point Presentation | |
|  | **Class – 11th week**  **(4 Contact Hours)** | | Data communication requirements – system conversion approaches and selection issues.  Project development selection of application – evaluation of design issues – cost/benefit analysis | | Lecture - Power Point Presentation | |
|  | Class – 12th week  **(4 Contact Hours)** | | Project and resource planning–design and development–testing and documentation– presentation and demonstration- Agile methodologies. | | Lecture - Power Point Presentation | |
| \*\* Evaluation out off contact hours if required\*\* | |
|  | April 2018 | | **Trimester Exam Begins** | | | |
| **COURSE ASSESSMENT METHODS** | | | | | | |
| **Sl. No.** | **Mode of Assessment** | **Week / Date** | | **Remarks** | **% Weightage** | |
|  | Cycle Test | 2nd / 3rd week of March 2018 | | 90 Minutes | 25% | |
|  | On spot Assignments / Group | Will be conducted anytime during course, based on coverage. | | Class room understanding evaluation | 10% | |
|  | Assignment | March/ April 2018 | | Assessed based on presentation & report submission | 15% | |
|  | End Semester Examination | April 2018 | | 180 Minutes (3 hours) | 50% | |
| **Note:**   1. Attending all the assessments (Assessment 1 to 4) is MANDATORY for every student. 2. If any student is not able to attend cycle test due to genuine reason, student is permitted to appear for retest. 3. Every student is expected to score minimum 40% (i.e., 40 marks) to pass the course. Otherwise the student would be declared fail and ‘F’ grade will be awarded. 4. 75% attendance is mandatory for appearing final exam | | | | | | |
| **FOR APPROVAL** | | | | | |
| **Dr.P.Sridevi**   |  |  |  | | --- | --- | --- | | **Dr.P.SRIDEVI** |  | **Dr.B.Senthil Arasu** | | **Course Faculty** | **Chairman (Class Committee)** | **HoD** | | | | | | |