



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering Syllabus

Subject Code : 3174210

Subject Name : Enterprise Resource Planning

WEF Academic Year:	2021-22
Semester:	VII
Category of the Course:	Open Elective - III

Prerequisite: Basic Programming/Logic concepts, Basic Business Information System or Management.

Rationale:

The aims of this course are to gain understanding of various Enterprise Systems modules and how they are able to be applied in a business context. The course will present the evolution, components and architecture of Enterprise Systems and help you to understand the benefits and drawbacks of implementing Enterprise Systems and how they can assist various organizations to improve their overall efficiency.

This course will introduce you to enterprise systems and show how organizations use enterprise systems to run their operations more efficiently and effectively. You will learn about the critical success factors and implementation strategies that lead to enterprise system success, and about the informational, knowledge, and decision-making opportunities afforded by enterprise systems. The course will examine typical Enterprise Resource Planning (ERP) modules: materials management (MM), supply chain management (SCM), customer relationship management (CRM), financials, projects and human resource management (HRM). Enterprise systems use a single database to integrate business transactions along and between processes, leading to benefits such as efficient and error-free workflows plus accounting, management reporting and improved decision-making. The course will incorporate a laboratory component using any ERP software.

Course Scheme:

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Practical		
				ESE (E)	PA(M)	ESE (V)	PA (I)	
2	0	2	3	70	30	30	20	150

Course Content:

Sr. No.	Course Content	No. of Hours	% of Weightage
1	Intorduction to ERP: Enterprise – An Overview, Growth of ERP, Integrated Management Information, Business Modeling, Integrated Data Model.	2	10%



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2	ERP and Related Technologies Business Processing Reengineering(BPR), Supply Chain Management (SCM), Customer Relationship Management(CRM), Management Information System(MIS), Human Resource Management (HRM), Decision Support System(DSS), Executive Information System(EIS), Data Warehousing, Data Mining, On-line Analytical Processing (OLAP).	4	15%
3	ERP Manufacturing Perspective: Material Requirement Planning (MRP), Bill Of Material (BOM), Manufacturing Resource Planning (MRP-II), Distributed Requirement Planning (DRP), Product Data Management (PDM). ERP Modules Finance, Plant Maintenance, Quality Management, Materials Management.	6	20%
4	Benefits of ERP Reduction of Lead-Time, On-time Shipment, Reduction in Cycle Time, Improved Resource Utilization, Better Customer Satisfaction, Improved Supplier Performance, Increased Flexibility, Reduced Quality Costs, Improved Information Accuracy and Decision making Capability.	4	12%
5	ERP Implementation Lifecycle Pre-evaluation Screening, Package Evaluation, Project Planning Phase, Gap Analysis, Reengineering, Configuration, Implementation Team Training, Testing, Going Live, End-user Training, Post-implementation (Maintenance mode).	4	13%
6	ERP Case studies E-Commerce to E-business E-Business structural transformation, Flexible Business Design, Customer Experience, Create the new techo enterprise, New generation e-business leaders, memo to CEO, Empower your customer, Integrate Sales and Service, Integrated Enterprise applications. Introduction to various ERP tools: Tiny ERP (Open Source), SAP AG, Baan Company, Oracle Corporation, People Soft, JD Edwards World Solutions Co, Microsoft Dynamic CRM-Module, System Software Associates, Inc. A Comparative Assessment and Selection of ERP Packages and Modules.	6	20%
7	E-Business Architecture Enterprise resource planning the E-business Backbone Enterprise architecture planning, ERP usage in Real world, ERP implementation, Future of ERP applications , E-Procurement, E-	2	10%



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	Governance, Developing the E-Business Design		
Total		28	100%

Reference Book:

1. Enterprise Resource Planning - Alexis Leon, Tata McGraw Hill (Latest Edition).
2. Enterprise Resource Planning – Diversified by Alexis Leon, TMH.
3. Daniel E.O’Leary, Enterprise Resource Planning Systems, Cambridge University Press, 2002.
4. Ellen Monk, Bret Wagner, Concepts in Enterprise resource planning, Cengage learning, Third edition, 2009.
5. Enterprise Resource Planning - Ravi Shankar & S. Jaiswal , Galgotia.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level*
01	Demonstrate a good understanding of basic issues in Enterprise Systems,	RM
02	Explain the scope of common Enterprise Systems (e.g., MM, SCM, CRM, HRM, procurement)	UN
03	Explain the challenges associated with implementing enterprise systems and their impacts on organizations	AN
04	Describe the selection, acquisition and implementation of enterprise systems	EL
05	Use a leading Enterprise Systems package (open source) to support business operations and decision-making	AP

*RM: Remember, UN: Understand, AP: Apply, AN: Analyze, EL: Evaluate, CR: Create



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Suggested Course Practical List:

1	Introduction to ERP System and Review on different ERP packages.
2	Study of Tiny ERP or any Open Source ERP package.
3	Identification and brief introduction of different Modules in Tiny ERP or any Open Source ERP package.
4	Identify different process of any Open Source ERP modules.
5	Demonstrate Benefits of an ERP System.
6	Study Finance Management Module of ERP.
7	Study Supply Chain Management(SCM) of ERP.
8	Study Customer Relationship Management(CRM) of ERP.
9	Study the Life Cycle of E-Commerce/E-Business.
10	Study of Business Intelligence(BI).
11	Do Comparative Assessment and Selection of ERP Packages and Modules.
12	Study of Business Process Reengineering(BPR).

List of Laboratory/Learning ResourcesRequired:

1. <https://pythonsource.com/open-source/erp-crm>
2. Wireshark (www.wireshark.org)
3. <https://nptel.ac.in/>
4. <https://www.coursera.org>
5. <http://www.dvwa.co.uk/>
6. https://www.tutorialspoint.com/management_information_system/enterprise_resource_planning.htm

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