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PENS
Pathway in Enterprise Systems Engineering

**Pathway in Enterprise Systems Engineering (PENS)**

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http://www.pens.ps

# Enterprise Systems
# Course Specification

# Course Specification

## I. Course details

| | |
|---|---|
| Course Name | [Enterprise Systems] |
| Course Code | PENS_[ES] |
| Number of Credit Hours | [3] |
| ECTS Credits | 5.5 (140 learning hours) |
| Course type (core / elective) | [core] |
| Pre-requisites | [None] |
| Weekly Hours<br>• Theoretical<br>• Practical<br>• Total | <br>• [3]<br>• […..]<br>• [3] |
| Course Description (provide 60-100 words describing the focus of the syllabus) | |
| This course will introduce enterprise systems and show how they can be used by organizations to run their operations more efficiently and effectively. Functionalities and purposes of enterprise systems will be presented and analyzed, including enterprise resource planning (ERP) systems and will examine the implementation process of ERP systems, covering business processes, ERP architecture, ERP usage, project planning, production, and sales business processes using ERP software. The course will introduce also the customer relationship management (CRM) systems that helps in building and retaining long-term relationships with customers, its definition, lifecycle, applications and technologies. The course will present the supply chain management (SCM) systems and their applications. | |
| Course aim(s) (provide 30-50 words describing the aim of the course) | |
| The main objectives of this course are (i) Introduce students to the fundamental concepts and the applications of enterprise systems (ii) Students will be able to identify the efficiency and effectiveness of the organization in performing the respective business processes required to run their operations and to deliver their goods or services to customers by using three processes : enterprise resource planning ERP, customer relationship management CRM, and supply chain management SCM. (iii) Develop student's practical skills in the configuration and enhancement of enterprise systems and the skills needed to be a project manager. | |

## II. Intended Learning Outcomes of Course (ILOs)

On completing the course, students should be able to:

**LO.1** Understand the foundations of enterprise systems, explain key concepts and roles enterprise systems play within an organization; describe characteristics and risks of ES,

outsourcing and its business and cultural implications, software tools that can be used by enterprise to run their operations more efficiently.

**LO.2** Discuss the advantages and disadvantages of ERP system, ERP architecture, the evolution of information systems technology generations and architectures

**LO.3** Analyzing and identifying the role of ERP systems in system integration, change management, production and sales business processes, auditing process.

**LO.4** Understand the supply chain management, importance, activities, inventory management, levels of supply chain integration.

**LO.5** Understand the customer relationship philosophy, types, technologies, applications, strategies in Sales and marketing, CRM lifecycle.

**LO.6** Understand the factors that lead to the development and implementation of ERP systems and describe the Systems Development Life Cycle (SDLC).

## III. Course Matrix Contents

| Week | Main Topics / Chapters | Learning Hours | Intended Learning Outcome (s) |
|---|---|---|---|
| 1 | **Course overview**<br><br>Navigating the syllabus | [2] | |
| 2 | Overview on Enterprise Systems<br><br>● Definition and History of ES<br>● Characteristics of ES<br>● Reasons (or importance) for adopting ES | [12] | LO.1 |
| 3 | Enterprise resource planning ERP<br><br>● Definition and History<br>● Characteristics of ERP<br>● Objectives of ERP<br>● Systems benefits and limitations of ERP | [12] | LO.2, LO.1 |
| 4 | ERP system architecture :<br><br>● Defines the ERP modules that support the various business functions of the organization. Examples include:<br>– Accounting<br>– Human Resources<br>– Procurement<br>– Fulfillment<br>– Etc. | [12] | LO.3, LO.2, LO.1 |
| 5 | Defines the ERP architecture through the physical components of hardware, software selection and considerations:<br><br>● Master Data | [12] | LO.3, LO.2, LO.1 |

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|---|---|---|---|
| | • database | | |
| 6 | ERP System integration<br>• Introduction to system integration and its importance<br>• System integration steps<br>• Role of ERP in System integration | [9] | LO.3 |
| 7 | Implementation strategies<br>• Systems Development life cycle (SDLC).<br>– SDLC Approaches<br>– ERP Implementation Life Cycle<br>• Post implementation | [12] | LO.3, LO.6 |
| 8 | Implementation strategies<br>• Project Management<br>• Organizational change Management | [12] | LO.3, LO.6 |
| 9 | Customer-relationship management (CRM)<br>1. CRM definitions<br>2. Evolution of CRM<br>3. CRM processes<br>4. CRM life cycle<br>5. CRM architecture | [12] | LO.5 |
| 10 | CRM technologies<br>6. Operational CRM<br>7. Analytical CRM<br>– Data warehouse<br>– Data mining<br>8. Collaborative CRM<br>CRM market : description of the CRM market situation<br>CRM applications: CRM in terms of its strategic positioning and application areas. | [12] | LO.5 |
| 11 | Supply Chain Management SCM basics<br>9. Introduction<br>10. SCM Process<br>11. Application levels<br>12. E-Business and Supply Chain Management (E-SCM) | [12] | LO.4 |
| 12 | • Supply Chain Integration<br>• SCM applications<br>• Supplier relationship management (SRM) | [9] | LO.4 |

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| 13 | OutSourcing<br>• Introducing outsourcing<br>• Outsourcing considerations: transportation and communication management, cultural differences, financial difference, etc. | [12] | LO.1 |
| Total Learning Hours | 140 | | |

## IV. Assessment Methods, Schedule and Grade Distribution

| Assessment type | Used | Formative | Weight | Week | ILO(s) |
|---|---|---|---|---|---|
| Written exam (midterm) | Y | Y | [20%] | #[9] | • [1,2,3,.....] |
| Written exam (final) | Y | Y | [40%] | #[16] | • [1,2,3,4,5,6] |
| Written coursework (individual) | Y | Y | [20%] | #[4, 7, 10,14] | • [1,2,3,4,5,6] |
| Written coursework (group) | Y | Y | [20%] | #[14] | • [1,2,3,4,5,6] |
| Oral presentation (individual) | N | | | | • |
| Oral presentation (group) | N | | | | • |
| Test/Quiz | N | | | | • |
| Other | N | | | | • |

## V. List of References

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|---|---|
| Essential textbook(s) | • Luvai F. Motiwalla and Jeff Thompson,**Enterprise Systems for Management- 2d Edition**, Pearson, 2011, Pages: 384 ISBN 10: 0132145766 / ISBN 13: 9780132145763 |
| Recommended textbook (s) | • Marianne Bradford**, Modern ERP: Select, Implement, and Use Today's Advanced Business Systems 3d edition** lulu.com, 2015 284 pages ISBN-10: 131266598X ISBN-13: 978-1312665989<br>• LÉGER, P.-M., PELLERIN, R., BABIN, G., BEAL, J., & MIREAULT, P. **Readings on enterprise resource planning. (2011).** ERPsim L@b, HEC Montréal, 2011 - 330 pages |
| Course notes | • [.....] |
| Journal(s) / periodical(s) | • [.....] |
| Specific article(s) | • [.....] |

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| Websites and other online resources | • [.....] |

## VI. Facilities required for teaching and learning

- [Lab (PCs with Internet connection), projector, ERP software license(SAP, Odoo, etc.) ]