



# Configuring Enterprise Resource Planning Systems

## ITP 422 (3 Units)

---

**Description** In-depth configuration experience and understanding of business process integration. Learn how to configure an ERP (Enterprise Resource Planning) system for a hypothetical company from the ground up. Design the organizational structure, master data, and rules to support the core business processes for the manufacturing, procurement, customer order management, and financial tracking functions of a business. Emphasis will be placed on the cross-functional business processes and critical integration points that are necessary for the success of a company. Transaction tests are employed to demonstrate the effectiveness and functionality of the environments created. In today's competitive marketplace it is essential to have a good understanding of the big picture of information systems.

- Objectives** After completing this course, students will be able to
- List the important and necessary decisions businesses need to make before configuring their information systems
  - Configure an Enterprise Resource Planning system for integrating business processes
  - Create a fully functioning company with emphasis on -
    - Sales and Distribution (SD)
    - Materials Management (MM)
    - Production Planning and control (PP)
    - Financial Accounting (FI)
    - Controlling (CO)
  - Reconfigure an ERP system as a company grows or shrinks
  - Test and document the configuration process for future changes
  - Describe the importance of organizational structure, master data and organizational rules in the configuration process

***Students will be able to configure an ERP (SAP) for their company from the ground up.***

**Prerequisite** ITP 320 or ISE 583

**Instructor** Nitin Kalé

**Contact Info** kale@usc.edu | 213.740.7083

**Office Hours** TBD

**Lecture/Lab** 2 – 4: 50 p.m., Monday, KAP 267

**Grader** TBD

**Course Website** All course materials will be posted on blackboard.usc.edu. You will need your USC login to access USC Blackboard. *blackboard.usc.edu*

**Textbook** *There is no required text book for this course. Detailed notes will be provided throughout the semester.*

**Materials** Please purchase two binders to organize all the lecture notes and exercise instructions - 3 ring, minimum 1.5", clear overlay (front pocket)

**Software** This course uses SAP ECC 6.0 system for all projects. The SAPGUI will be provided to all students which will help them work on the SAP server from any networked computer.

**Grading** The final grade will be based upon the total percentage earned. Weekly projects will be assigned to students. The weights of graded material during the semester are listed below:

Homework	35%
Midterm Exam	25%
Final Project	15%
Final Exam	25%
Total	100%

Check Blackboard for your grades. Contact grader to discuss score discrepancies. No complaints will be entertained at the end of the semester.

- Policies**
- Projects turned in after the deadline will automatically have 2 points per day deducted. No projects will be accepted after 1 week beyond the project's original due date.
  - No make-up exams (except for medical or family emergencies) will be offered nor will there be any changes made to the Final Exam schedule.
  - "The School of Engineering adheres to the University's policies and procedures governing academic integrity as described in SCampus. Students are expected to be aware of and to observe the academic integrity standards described in SCampus, and to expect those standards to be enforced in this course."

**Statements**

- **Statement for Students with Disabilities**  
Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. The phone number for DSP is (213) 740-0776.

- **Statement on Academic Integrity**  
USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of

others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. Scampus, the Student Guidebook, contains the Student Conduct Code in Section 11.00, while the recommended sanctions are located in Appendix A: <http://www.usc.edu/dept/publications/SCAMPUS/gov/>. Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>.

# Configuring Enterprise Resource Planning Systems

## ITP 422 (3 Units)

---

### Course Outline

#### Week 1 – Introduction

- Course Overview
- Review of Enterprise Resource Planning
- Importance of Business Processes

#### Week 2 – Business Process Integration

- Structuring organizational data
- Structuring organizational functions
- Rules of business processes

*Homework – Analyze the structure of Pen Inc., a company that manufactures pens and sells them via wholesale and retail channels*

#### Week 3 – Financial Accounting

- Role of Financial accounting in business Processes
- Explain the role of General Ledgers
- Differentiate Accounts Receivable and accounts payable

*Homework – Configure the financial accounting for Pen Inc.*

#### Week 4 – Financial Accounting contd.

- Chart of Accounts
- Balance sheets, Income statements

*Homework – Create master data for various types of accounts*

#### Week 5 – Material Management

- Managing buying, selling and production of materials
- Purchasing and vendors
- Sales and customers

*Homework – Identify and create the vendors, purchasing procedure, pricing conditions*

#### Week 6 – Material Management contd.

- Inventory management
- Payments and invoices
- Purchase orders, sales orders, goods receipt, goods issue

*Homework – Configure the organizational structures essential for processing purchase orders and invoicing*

#### Week 7 – Sales and Distribution

- Organizational structure for S & D – Sales organization, distribution channel, division, sales area
- Configuring materials, vendors and customers
- Pricing
- Availability and delivery scheduling

*Homework – Analyze the sales order process and configure customers as well as sales organization structures.*

**Week 8 – Sales and Distribution contd.**

- Different processing for different types of sales orders
- Goods return
- Goods movement

*Homework – Establish different types of sales orders and their processing*

**Week 9 – Midterm Exam**

**Week 10 – Controlling**

- Managerial accounting
- Organizational structure for costing
- Cost centers, cost elements, profit centers
- Product cost controlling
- Allocations and distributions

*Homework – Configure the master data required for cost center accounting  
Decide how costs are allocated to various cost centers, then implement those allocations*

**Week 11 – Production Planning**

- Production Forecasting
- Sales and operations planning
- Demand Management

*Homework – Strategies for production planning. Configure demand management to automate planning*

**Week 12 – Production Planning contd.**

- Material requirements planning

*Homework – Configure MRP controllers to automatically create purchase requisitions, purchase orders and planned production orders.*

**Week 13 – Production control**

- Production orders and process
- Bill of materials, work centers, routing
- Goods movement

*Homework – Structure the entire production process for Pen Inc.*

**Week 14 – Final Project**

- **Configure the ERPSimulation Game for Muesli company**

**Week 15 – Testing the configured Enterprise**

- Testing transactions on the fully configured enterprise
- Future maintenance and expansion
- Documentation

*Homework – Test the fully configured Muesli company by creating buy-make-sell-track transactions. Identify any errors and solutions.*

**Week 16 – Final Exam**