ERP6120 ERP Configuration and Integration

Department of Business & Information Technology Mission

Capitalizing on the strong technological emphasis of Missouri S&T, the Department of Business and Information Technology prepares individuals for careers in modern business organizations. The Department emphasizes management through technology, with a particular focus on information systems and their application in a fast-changing, global, and competitive environment, to serve the economic interests of industry and the evolving needs of society.

INSTRUCTOR AND COURSE INFORMATION

Instructor: Bih-Ru Lea, Ph.D.	**Class Web:** http://canvas.mst.edu
Office: Fulton 102A	**Class Hours:** Online Asynchronous
Phone: 573-341-6436	**Office Hours:** in person or via ZOOM
E-Mail: leabi@mst.edu	**https://umsystem.zoom.us/j/93856974357**
Course Credit: 3 semester hours of credit	Monday: 11:30 am – 1 pm
Prerequisite: ERP 2110, ERP 5110, ERP 5310, or instructor permission	(ZOOM link provided above and in the course Canvas) or by appointment (suggest a time via email)

COURSE CATALOG DESCRIPTION:

Implementation and design practices for business processes in Enterprise Resource Planning (ERP) systems. The course will examine and apply techniques used in SAP S/4HANA or SAP ECC for system configuration and integration with a focus on financial accounting and logistics. Fiori configuration will be examined to develop an ERP user interface.

PLANNED LEARNING OBJECTIVES

Course Objectives	Program Learning Objectives					
	Communication Skills	Critical Thinking	Information Technology	Teamwork & Leadership	Global & Multicultural Issues	Integrate Business Areas
• Understand and communicate the need and examine the capabilities of an Enterprise Resource Planning (ERP) system	X	X	X		X	X
• Understand the importance of an integrated business and identify how the activities of each process contribute value to the organization		X	X			X
• Understand and communicate the impact of events, activities, and transactions across the functions of an organization	X	X	X	X	X	X
• Understand and be able to design and deploy proper user interfaces in ERP System implementation		X	X			X
• Demonstrate and communicate the impact of integrated real-time information on the decision-making process across various functional areas of an organization	X	X	X	X	X	X
• Gain hands-on experience in designing and implementing an ERP system in an organization			X			X

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TEXTBOOK(S) AND MATERIALS FOR THE COURSE

Both course materials can only be purchased from the university bookstore, http://www.thesandtstore.com/ or 573-341-4705

- *ERP 6120/4001/4120 Course Notes and Readings (Course Pack 1 of 2, ISBN:)*
- *ERP 6120/4001/4120 Lab Assignments and Project Assignments (Course Pack 2 of 2,)*

Both course packs have been approved to be a part of the S&T AutoAccess program designed to reduce the cost of course materials for students. The lowest cost content has been sourced. If you choose to opt out of the content, please do so by **January 2024** to receive a refund**.** You will be sent an AutoAccess Welcome Email that will provide charge amounts, the opt-out process and any additional information needed for your AutoAccess course(s) beginning January 2024.

Your AutoAccess course may have a Print Upgrade available as an additional purchase. This is a low-cost version of the printed text made available by the publisher at a reduced cost. It is the publisher's requirement that in order to purchase the additional print, you must opt in for the AutoAccess digital required material. If you have questions please contact the university bookstore at 573-341-4705, email autoaccess@mst.edu or visit https://www.thesandtstore.com/t-autoaccess_student.aspx.

GRADING POLICIES AND PROCEDURES:

Test 1	100 pts	Labs, quizzes, and class activities	680 pts
Test 2	100 pts	Discussion board participation	Up to 20 pts
Final Exam	120 pts		extra credit

Grading Scale:

   A: ≥ 895   B: 795 – 894   C: 694 - 794   F: < 694

General Grading Policies:

- **ALL ASSIGNMENTS AND TESTS ARE INDIVIDUAL WORKS UNLESS OTHERWISE SPECIFIED.**
- An assignment must be submitted by the due date. The grade will be reduced by 15% if the assignment is turned in within 24 hours later than its due time/date. The late penalty is incremented by 15% for every 24 hours late. No work will be accepted if submitted five days after the due date, including weekends. An exception will only be given to a student with a legitimate reason and he/she notifies the instructor **three days before the due date**.
- The instructor will assign NO incompletes in lieu of a regular grade.

Tests and Quizzes

- There are three tests, each consisting of a written test and a computer operation test. **All exam materials may become the property of the instructor after completion.**
- Each test includes a concept test and a computer operation. The concept test is close book and close notes using an **online proctoring system** provided by the Missouri University of Science and Technology. The computer operations test is open book and open notes.
- All exams are conducted using an **online proctoring system** provided by the Missouri University of Science and Technology. The online proctoring system currently in use is the ***SmaterProctoring*** available through the Canvas course site. Your computer and test environment must pass the environment check detailed at https://smarterproctoring.zendesk.com/hc/en-us/articles/360048209372-Best-Practices-for-Automated-Proctoring-Updated-) before you can take a test.

- It is possible to have announced quizzes throughout the semester. Students will be given the date of announced quizzes one week in advance.

- Exam and quiz dates are a part of the class schedule. Failure to complete a test/quiz by the due date will result in a zero grade for that test/quiz. If you are going to miss a test/scheduled quiz for a legitimate reason (e.g., scheduled surgery, official University business, job interview), contact the instructor **PRIOR** to the administration of that test/quiz. A make-up test may be allowed only if convincing reasons and proper documentation (such as a doctor's note in case of surgery/illness) are given for the absence. The make-up test will be a comprehensive exam covering the material throughout the course.

- All in-class quizzes and exams are closed books and closed notes unless otherwise specified.

Assignments & Labs

- Throughout the semester, each student will be configuring a fictitious company through a series of lab exercises using an ERP system such as the SAP S/4HANA system.
- Your company's configuration labs will be evaluated at the end of each test phase. Four test/validation phases, related assignments, and quizzes account for 680 points of the course grade.

Discussion Board Participation

The sheer size of the ERP concepts and the complexity of commercial software such as SAP ERP software limits the instructor from covering every aspect and screen that we will be using this semester. To help students better understand course materials, to develop debugging skills, and to learn from each other, the instructor has enabled a discussion board in Canvas. **All technical support for Labs and projects will be provided through the class Discussion Board**. Technical ERP software-related questions will **NOT** be answered through e-mail by the instructor or graduate assistant.

- If you do not understand a concept or encounter a problem/error that you do not know how to resolve yourself, you will need to post your questions on the discussion board. You are also expected to answer questions asked by your peers. Occasionally, the instructor will also post questions and answers.
- Before posting a question on the Discussion Board, it is the student's responsibility to check and ensure no same question has been posted before.
- By the end of the semester, every student is expected to have asked and answered 10-15 questions. These discussions will **earn you up to 20 extra credit points (or 2%) toward the course grade**. Straightforward questions (for example – how do I get to this transaction, where can I find this button, etc) will not count. Do not post questions just in the case of posting. The discussion board participation extra credits are awarded based on the analysis of the following content categories during the semester:

Categories	Percentage
Original posts, reply posts, and follow-up posts	45%
Endorsement from the instructor and peers	10%
Posts viewed	15%
Instructor posted topics/survey/poll participated/voted	30%
Total	**100%**

GENERAL COURSE POLICIES:

Statement about Copyright, FERPA, and Use of Video

It is vitally important that our classroom environment promotes the respectful exchange of ideas. This entails being sensitive to the views and beliefs expressed during discussions whether in class or online. Please speak with me before recording any class activity. It is a violation of the University of Missouri policy to distribute such recordings without my authorization and the permission of others who are recorded. More information is provided online.

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Accessibility and Accommodations

It is the university's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on a disability, please contact Student Disability Services at (573) 341-6655, sdsmst@mst.edu, and visit http://dss.mst.edu/ for information.

Student Honor Code and Academic Integrity

- **The instructor does not tolerate academic dishonesty of any type**. You don't get a second chance. You don't get to redo work or be forgiven for academic misconduct. You will be assigned a 0 for any assessment where you perform academic misconduct, and the instructor is **required to report the incident to the Department and the University for disciplinary actions** which may include dismissal from the University. You may seek and give assistance on an assignment or project. You may not copy or plagiarize someone else's assignments, including assignments from previous semesters. You may not copy work from anyone else. You may not give someone else your answers. You may not submit someone else's work as your own. This **includes work done by an AI**. You may not do someone else's work for them. If you are caught receiving or giving an answer, this is considered academic dishonesty under university rules. Helping means helping someone figure out the solution themselves. It does not mean giving them the answers. If you don't know or don't want to spend the effort to actually teach someone else how to do something, don't help them. You will get in trouble. **Please note that there are elements designed into this course to cause your cheating to be revealed** (adopted from Dr. Cecil Huang Chua's policies).
- The Honor Code all students are expected to follow can be found at this link: http://stuco.mst.edu/honor-code/.
- Page 30 of the Student Academic Regulations handbook describes the student standard of conduct relative to the University of Missouri System's Collected Rules and Regulations section 200.010, and offers descriptions of academic dishonesty including cheating, plagiarism, and sabotage (http://registrar.mst.edu/academicregs/index.html), **all of which will be reported to the Vice Provost for Academic Support.**
- Additional guidance including the University's Academic Dishonesty Procedures is available at http://academicsupport.mst.edu.
- Other resources for students regarding ethics and integrity can be found at http://academicsupport.mst.edu/academicintegrity/studentresources-ai.

Well-Being and UCARE (https://go.mst.edu/ucare-report)

Any of us may experience strained relationships, increased anxiety, feeling down, alcohol/drug misuse, decreased motivation, challenges with housing and food insecurity, etc. When your mental well-being is negatively impacted, you may struggle academically and personally. If you feel overwhelmed or need support, please make use of S&T's confidential mental health services at no charge. For a quick guide to campus resources that address specific issues please visit our Well-Being Referral Guide, available as a website at https://minerwellness.mst.edu/well-being-referral-guide/. If you are concerned about a friend or would like to consult with a Care Manager, please make a UCARE referral for support and assistance. https://stuaff.mst.edu/ucare/.

Nondiscrimination, Equity, and Title IX

Missouri University of Science and Technology is committed to the safety and well-being of all members of its community, and to creating an environment free from discrimination and harassment.

The University does not discriminate on the basis of race, color, national origin, ancestry, religion, sex, pregnancy, sexual orientation, gender identity, gender expression, age, disability, protected veteran status, and any other status protected by applicable state or federal law. As used in this policy, the word "sex" is also inclusive of the term "gender."

Additionally, US Federal Law Title IX states that no member of the university community shall, on the basis of sex, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any

education program or activity. Violations of this law include sexual harassment, sexual assault, dating/domestic violence, and stalking.

In accordance with The Collected Rules and Regulations University of Missouri, Missouri S&T requires that all faculty and staff members report, to the Missouri S&T Equity Officer, any notice of discrimination disclosed through communication including but not limited to direct conversation, email, social media, classroom papers and homework exercises.

Report violations of the university's nondiscrimination policies, including Title IX to the Missouri S&T's Equity Officer and Title IX Coordinator at equity@mst.edu or (573) 341-7734 located at 900 Innovation Drive - Suite 500 Rolla, MO 65409. To learn more about resources and reporting options (confidential and non-confidential) available to Missouri S&T students, staff, and faculty, please visit http://titleix.mst.edu.

Classroom Egress Maps
For all in-person instruction, faculty should explain where the classroom emergency exits are located. Classroom egress maps are posted at http://designconstruction.mst.edu/floorplan/.

KEY DATES https://registrar.mst.edu/calendars

- The last day to add this course is Monday, January 29
- The last day to withdraw from this course without a "WD" showing on the transcript is Monday, February 26
- The last day for dropping this course is Friday, April 12

Reading list (provided in course pack #1)

1. **R1**: Chapter 2: Enterprise Systems, by Gelinas, Dull, and Wheeler in Accounting Information Systems, pp. 33 – 61, 11th Ed., Cengage Learning; 2018 (ISBN-10: 9781337552127; ISBN-13: 978-1337552127)

2. **R2**: Chapter 12, The Purchasing Process, by Ulric J. Gelinas, Richard B. Dull, Patrick Wheeler, Mary Callahan Hill in Accounting Information Systems, pp. 453-488,11th Ed., Cengage Learning; 2018 (ISBN-10: 9781337552127; ISBN-13 978-1-337-55212-7)

3. **R3:** Chapter 10, The Order Entry/Sales (OE/S) Process, by Ulric J. Gelinas, Richard B. Dull, Patrick Wheeler, Mary Callahan Hill in Accounting Information Systems, pp. 356-392, 11th Ed., Cengage Learning; 2018 (ISBN-10: 9781337552127; ISBN-13 978-1-337-55212-7)

4. **R4:** Chapter 14. The Revenue Cycle: Sales to Cash Collections, Accounting Information Systems, Marshall B. Romney, Paul J. Steinbart, Scott Summers, and David Wood, 15th ed., pp. 426-454, 2020, Pearson (ISBN-10: 013670901X • ISBN-13: 978-0136709015)

5. **R5:** Chapter 4, Activity-Based costing, in Managerial Accounting, by Warren, Reeve, and Duchac, 14th Ed., pp. 149 – 172, Cengage Learning, 2018 (ISBN-10: 1337270598; ISBN-13: 978-1-337-27059-5)

6. **R6:** Chapter 16. The Production Cycle, Accounting Information Systems, Accounting Information Systems, Marshall B. Romney, Paul J. Steinbart, Scott Summers, and David Wood, 15th ed., pp. 506-527, 2020, Pearson (ISBN-10: 013670901X • ISBN-13: 978-0136709015)

7. **R7:** Chapter 9: Material Requirements Planning, by Jacobs and Chase, in Operations and Supply Management: The Core, 6th Ed., pp. 268-300, 2022, McGraw Hill Education (ISBN-10: 126540822X, ISBN-13: 978-1265408220)

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Tentative Course Schedule

CP1: Course Pack 1   **CP2: Course Pack 2**   **R#: Reading chapter assignment**

	Topics	Readings & Notes
Prior to 1st class	Course Preparation & Setup assignment (check your **S&T email** for **user ID** and **password**), submission required.	CP2: 7-12
	SAP Navigation Review	CP2: 13-39
Module 1 **Week 1** (1/16 – 1/20)	Introduction to ERP 6120	CP1: 1-8
	ERP Concept Review using SAP	CP1: 9-20
	Business Process Using SAP S/4HANA and SAP ERP	CP1: 21-41
	• ERP 6120 Case Overview	CP1: 43-50
	Demo: Order to Cash Transactions & Transaction Impact Tracking	CP2: 45-66
	Assignments: • Lab 1: Order to Cash Cycle Review Exercises (CP2: pp. 45-66)	
Module 2 **Week 2** (1/21 – 1/27)	**R1**: Chapter 2: Enterprise Systems, by Gelinas, Dull, and Wheeler in Accounting Information Systems, pp. 33 – 61, 11th Ed	CP1:66-91 Notes: CP1: 92-97
	Business Partner (New in S/4HANA)	CP1: 41-42
	SAP ERP System Fiori Interface	CP1: 98-124
	Exercises: SAP Fiori Reference Library and Fiori Designer	
	Assignments: • Review Question Set in Canvas: **R1**: Chapter 2: Enterprise Systems • Lab 2 Fiori Designer: Fiori Reference Library, Catalog, Group, and Transaction tiles (CP2: 67-81)	
Module 3 **Week 3** (1/28 – 2/3)	Fiori Designer	CP1: 125-135
	Demo: Fiori: Create a Transaction Tile as a Static App Tile in Catalog	CP2: 82-90
	Fiori: Create an Analytics Tile as a Dynamic App Tile in Catalog	CP2: 91-109
	Assignments: Lab 3 Create Transactional and Analytics Fiori Apps (CP2: 82 – 109)	
Module 4 **Week 4** (2/4 – 2/10)	ERP Configuration and Integration: Basic Concepts	CP1: 136-138
	Financial Accounting: Overview & The Basics (Accounting Equation, Chart of Accounts, General Ledger, Financial Statements)	CP1: 139 -147
	• ERP Configuration: Organization/Enterprise Structure	CP1:148-254
	Business Rules & Parameters	CP1: 155-166
	Assignments: Lab 4 Part 1 Financial Accounting (Ex. 21-42, CP2: 110-131) • Organization/Enterprise Structure (Ex. 21-23, CP2: 110-111) • Rules & Parameters (Ex. 24-42, CP2: 112-131)	

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Week & Modules	Topics	Readings & Notes
Module 5 **Week 5** (2/11 – 2/17)	Managerial/Management Accounting: Overview, Roles, and Process	CP1: 167-170
	• ERP Configuration: Organization/Enterprise Structure	CP1: 171-187
	Managerial/Management Accounting: Cost Elements & Cost Centers • ERP Configuration: Business Rules and Parameters	CP1: 188-195
	Financial Accounting: Master Data (Accounts and Financial Statemets)	CP1: 196-204
	Assignments: Lab 4 Part 2 • Controlling: Organization/Enterprise Structure (Ex. 44-50, CP2: 132-136) • Controlling: Rules & Parameters (Ex. 51-53, CP2: 137-141) • FI Master Data (Ex. 54-75, CP2: 142-166)	
Module 6 **Week 6** (2/18 –2/24)	Managerial/Management Accounting Master Data: Cost Elements & Cost Centers	CP1: 205-213
	Financial Accounting Transactions	CP1: 214-222
	<mark>**Test 1 Concept Test and computer operations**</mark> The following exercises are included in the Test 1 computer operation test • Controlling Master Data (Ex. 76-78, CP2: 167-169) • FI Configuration Test: Accounting Transactions (Ex. 79-84, CP2: 170-181)	
Module 7 **Week 7** (2/25 – 3/2)	Procurement Process & Material Management (MM) • ERP Configuration: MM Organization/Enterprise Structure, Business Rules & Parameters	CP1: 223-254
	Assignments: • MM Organization/Enterprise Structure (Ex. 85-93, CP2: 182-187) • MM Rules & Parameters (Ex. 94-111, CP2: 188-204)	
Module 8 **Week 8** (3/3 - 3-9)	Procurement Process & Material Management: Master Data	CP1: 255-272
	R2: **R2**: Chapter 12, The Purchasing Process, by Ulric J. Gelinas, Richard B. Dull, Patrick Wheeler, Mary Callahan Hill in Accounting Information Systems, pp. 453-488,11th Ed., Cengage Learning; 2018	CP1: 253-289 Notes: CP1: 291-300
	Assignments: • MM Master Data (Ex. 112-119, CP2: 205-220) • Review Question Set in Canvas: **R2**: Chapter 12, The Purchasing Process	
Module 9 **Week 9** (3/10 – 3/16)	Procurement Process & Material Management: Transactions	CP1: 273 - 296
	Assignments: MM Transactions: (Ex. 120-140, CP2: 221-242) • Single vendor (Ex. 120-125): test procure to pay integration between FI and MM • Single vendor (Ex. 126-129): test procure to pay process configuration • Multiple vendors (Ex. 130-133): test Accounts Payable-Consolidation configuration • Procure to Pay through Outline Agreement (contract) & MRP (Ex. 134 – 140)	
Module 10 **Week 10** (3/17 – 3/23)	Sales and Distribution Process	
	• Organization/Enterprise Structure	CP1: 345 - 351
	• Business Rules & Parameters	CP1: 352 - 361
	• Master Data (Materials, Customers, and Material Pricing)	CP1: 362 - 376

	<mark>**Test 2 Concept Test and computer operations**</mark>
	The following exercises are included in Test 2 computer operation test
	    Sales & Distribution (SD):
	        o Organization/Enterprise Structure (Ex. 141 - 152, CP2: 243-247)
	        o Business Rules and Parameters (Ex. 153-159, CP2: 248-257)
	        o Master Data – Materials, Customers, and Material Pricings (Ex. 160-165, CP2: 258-265)	

Week 11 (3/24 - 3/30)	Spring Break, no class	

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	Topics	Readings & Notes
Module 11 **Week 12** (3/31 – 4/6)	Sales and Distribution Process: Transactions	CP1: 377-394
	R3: Chapter 10, The Order Entry/Sales (OE/S) Process, by Ulric J. Gelinas, Richard B. Dull, Patrick Wheeler, Mary Callahan Hill in Accounting Information Systems, pp. 356-392, 11th Ed	CP1: 395-434 Notes:434-440 – 344

	Assignments:
	• Review Question set in Canvas: **R3:** Chapter 10, The Order Entry/Sales (OE/S) Process
	• SD: Configuration Test (Ex. 166-197, CP2: 266 -306)
	   o Typical Sales process transactions (Ex. 166-172)
	   o Customer Info Records (Ex. 173-179)
	   o Scheduling Agreements (contracts) (Ex. 180-183)
	   o Item Proposal (Ex. 184-186)
	   o Value Discount, MRP, and FI-SD-MM Integration Test (Ex. 187-197)
	   o (**Extra Credit**) Configuration test: Goods Return Process (Ex. 198-209)	

Module 12 **Week 13** (4/7 - 4/13)	**R4:** Chapter 14. The Revenue Cycle: Sales to Cash Collections, Accounting Information Systems, Marshall B. Romney, Paul J. Steinbart, Scott Summers, and David Wood, 15th ed., pp. 426-454, 2020, Pearson	CP1: 395-434 Notes: 435-440
	Managerial/Management Accounting: Cost Allocation	CP1: 477-496
	(Optional Reading) R5: Chapter 4, Activity-Based costing, in Managerial Accounting, by Warren, Reeve, and Duchac, 14th Ed., pp. 149 – 172, Cengage Learning, 2018	CP1: 497-522

	Assignments:
	• Review Question Set in Canvas: **R4:** Chapter 12. The Revenue Cycle: Sales to Cash Collections
	• Preparation for Controlling (CO) and Production Planning (PP) (Ex. 210-223, CP2: 307-317)
	   o Assets & Primary Cost Accounts (Ex. 210-218)
	   o Secondary Cost Accounts (Ex. 219-223)
	• CO Configuration Test: Reposting between Cost Centers (Ex. 224-229, CP2: 318-322)	

Module 13 **Week 14** (4/14 – 4/20)	Managerial/Management Accounting: Cost Allocation for Internal Orders	CP1: 449-452
	Production Planning (PP) Process Overview • ERP Configuration: Organization/Enterprise Structure, Business Rules & Parameters, Master Data	CP1: 523 - 532

	Assignments:
	• CO Configuration Test (Ex. 230-251, CP2: 323-345)
	   o Distribution Cycle (Ex. 230-232)
	   o Assessment Cycle (Ex. 233-237)
	   o Internal Orders (Ex. 238-269)
	• Production Planning (PP) (Ex. 252-269, CP2: 307-317)
	   o Organization/Enterprise Structure (Ex. 252-253, CP2: 307)	

Module 14 **Week 15** (4/21 – 4/27)	Production Planning (PP) Process: Bill of Materials, Work centers, Capacities, Production Activities, Routings, Production Versions	CP1: 532 – 538
	Production Planning Transactions: Sales and Operations Planning	CP1: 539-542 Handout
	Assignments: Production Planning (Ex. 254 – 269; CP2: 347 – 371) • PP Rules and Parameters (Ex. 254-265) • PP Material Master Data: Raw Materials, Semi-finished goods, finished goods (Ex. 266-269) • PP Vendor Master Data (Ex. 269) • Procurement & Production Integration Configuration test (Ex. 270-274)	

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	Topics	Readings & Notes
Module 15 **Week 16** (4/28 – 5/3)	**R6:** Chapter 16. The Production Cycle, Accounting Information Systems, Accounting Information Systems, Marshall B. Romney, Paul J. Steinbart, Scott Summers, and David Wood, 15th ed., pp. 506-527, 2020,	CP1: 543 – 566 Notes: 567-570
	Course Review & Final Exam	
Module 16 **Week 17** (5/4 – 5/10)	**Final Exam Concept Test and Computer Operations** The computer operation test includes the following exercises • PP Master Data (Ex. 275-284, CP2: 372-386) ○ Bill of Material (Ex. 275-276), Capacity & Activities (Ex 277-279), Work Centers (Ex. 280), Routings (Ex. 281 – 283), Production Versions (Ex. 284) • (**extra credit**) PP Configuration Test: Sales and Operations Planning (SOP) (Ex. 285-290, CP2: 387-393) • Production Planning (PP) Configuration test: Compressive Transaction Test (Ex. 291-298; CP2: 394-407)	