Minor Stream: Cloud ERP in Collaboration with SAP

Course Code	Course Name	Level	L	T	P	C	CIE	SEE	Total	Pre-requisite
2501CS81	Integrated Business Processes in Cloud ERP I	FC	2		1	3	50	50	100	-
2501CS82	Integrated Business Processes in Cloud ERP II	IC	2		1	3	50	50	100	IBP I
2501CS73	Design Thinking	FC			1	1	50	50	100	-
2501CS74	Basic ABAP Programming	FC	2		2	4	50	50	100	-
2501CS75	Intermediate ABAP Programming	IC	3		0	3	50	50	100	BABAP
2501CS76	Advanced ABAP Programming	AC	2		2	4	50	50	100	IABAP
2501CS77	Fiori Programming-Basic	FC	2		2	4	50	50	100	-
2501CS78	Fiori Programming-Intermediate	IC	2		2	4	50	50	100	FPB
2501CS79	Fiori Programming-Advanced	AC	2		2	4	50	50	100	FBI
2501CS80	Cloud ERP Implementation Methodology	AC	2		1	3	50	50	100	-
Total			**19**		14	**33**				

Integrated Business Processes in Cloud ERP I

	L	T	P	C
Course Code: 2501CS81	**2**	**0**	**1**	**3**

Course Outcomes:
At the end of the course, student will be able to:

- **CO1:** Define concepts of ERP including Organization Structures and Master Data.
- **CO2:** Define basics of Financial Accounting and Management Accounting.
- **CO3:** Explain financial accounting processes including G/L accounting, accounts payable, accounts receivable, asset accounting.
- **CO4:** Explain management accounting processes including planning / budgeting, capture of actuals, plan vs actuals comparison.
- **CO5:** Explain human resource management concepts (including organization structure, employee master record), and HR processes of talent acquisiton, talent management, talent development.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2				1	1		1	1		1
CO2	1				1	1		1	1		1
CO3	1				1	1		1	1		1
CO4	1				1	1		1	1		1
CO5	1				1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	
CO4	1	
CO5	1	

UNIT – I

SAP S/4HANA Enterprise Management: Overview
SAP S/4HANA, SAP ERP to SAP S/4HANA, new user experience, Organizational structures, Master Data.

Practice:

1. Adjust the SAP Fiori Launchpad in SAP S/4HANA
2. Display the Organizational Structures
3. Display a Material Master Record

UNIT – II

SAP Record-to-Report Processing Overview:
Financial Accounting (FI), Management Accounting (CO), Integration between Finance and Controlling.

Practice:
1. Create a Primary Cost Account
2. Create and Display Cost Centers
3. Display a Profit Center

UNIT – III

Financial Accounting
Organizational levels in SAP Financials, G/L Accounts, Cost Centers, Profit Centres, G/L Accounts Posting, Financial Statements, Supplier Master Records, Vendor Invoice posting, asset master record.

Practice:
1. Create a Posting from Financial Accounting
2. Create a Business Partner and an FI Vendor
3. Enter a Vendor Invoice with Document Splitting
4. Post a Manual Outgoing Payment with Check Printing
5. Display a Vendor Account Balance
6. Create an Asset Master Record

UNIT – IV

Management Accounting
Cost centre and activity types, activity allocation, internal orders.

Practice:
1. Create a Secondary Cost Account, an Activity Type and Set Activity Prices
2. Maintain Internal Order Master Data

UNIT – V

SAP Recruit-to-Retire Processing
Organizational management, employee master data record, SAP HCM and SAP SuccessFactors.

Practice:
1. Create an Organizational Unit and a Position in Organizational Management
2. Create an Employee Master Data Record

Text Books:

1 TS410_Integrated Business Processes in SAP S/4HANA course available in SAP learning Hub.

Reference Books:

1 SAP S/4HANA, An introduction, written by Devraj Bardhan, Axel Baumgartl, Madalina.

2 Dascalescu, Mark Dudgeon, Piotr Górecki, Asidhara Lahiri, Richard Maund, Bert Meijerink, Andrew Worsley-Tonks. Published by Rheinwerk and available at SAP PRESS: https://www.sap-press.com/sap-s4hana_5973/.

Integrated Business Processes in Cloud ERP II

	L	T	P	C
Course Code: 2501CS82	2	0	1	3

Course Outcomes:

At the end of the course, student will be able to:

- **CO1**: Explain organization structure, master data, and process flow in Purchase and Inventory functions.
- **CO2**: Explain organization structure, master data, and process flow in Manufacturing function.
- **CO3**: Explain organization structure, master data, and process flow in Sales function.
- **CO4**: Explain organization structure, master data, and process flow in Projects function.
- **CO5**: Explain organization structure, master data, and process flow in Maintenance function.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	1				1	1		1	1		1
CO2	1				1	1		1	1		1
CO3	1				1	1		1	1		1
CO4	1				1	1		1	1		1
CO5	1				1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	
CO4	1	
CO5	1	

UNIT – I

SAP Source-to-Pay Processing

Source-to-pay business process, organizational levels in SAP source to pay business process, material/product master record, supplier master record, additional suppliers specific master data records, purchase requisition for stock item and consumable material, purchase order, SAP Ariba functionality with procurement in SAP S/4HANA, goods receipt for a purchase order, supplier invoices, automatic payment run, warehouse management, warehouse structures and usage, types of stock changes.

Practice:

1. Create a Material Master Record
2. Extend a Vendor Master Record
3. Create a Purchasing Info Record
4. Create a Purchase Requisition for a Stock Item and a Consumable Material

5. Create a Purchase Order with Reference to a Purchase Requisition
6. Post a Goods Receipt for a Purchase Order
7. Post the Supplier Invoice
8. Create an Automatic Payment Run
9. Extend a Material Master Record

UNIT – II

SAP Design-to-Operate Processing

Organizational levels, master data, product cost estimate, product demand planning, MRP process, advanced planning, planned order to production order conversion, production order release, material withdrawal for a production order, order confirmation and materials goods receipt, period end closing activities for production order.

Practice:

1. Create a Standard Cost Estimate
2. Manage Planned Independent Requirements
3. Display the Material Master Record
4. Explore PP/DS in SAP S/4HANA
5. Convert a Planned Order to a Production Order
6. Perform Goods Issue for a Production Order
7. Confirm a Production Order
8. Calculate Variances in a Production Order

UNIT – III

SAP Lead-to-Cash Processing

Organizational levels, master data, customer master record, condition record, sales order, delivery document, customer invoice, CO-PA, Transportation Management.

Practice:

1. Check Material Master Record for Sales
2. Create a Customer Invoice

UNIT – IV

SAP Project Systems (PS)

Project structure, resource plan, cost plan, project budget, project execution, labour and materials recording, period-end closing activities.

Practice:

1. Create a Project Structure
2. Release a Project

UNIT – V

SAP Enterprise Asset Management (EAM)

Business steps in SAP EAM, organizational levels, functional locations, master data, equipment, asset accounting integration, notifications, maintenance orders processing, period-end closing activities.

Practice:

1. Display and Create a Functional Location Structure
2. Create a Maintenance Request Notification
3. Confirm Time for Maintenance Order and Goods Issue Posting
4. Perform Period-End Closing Activities

Text Books:

1 TS410_Integrated Business Processes in SAP S/4HANA course available in SAP learning Hub.

Reference Books:

1 SAP S/4HANA Business Process Integration Certification Guide, written by Murat Adivar. Published by Rheinwerk and available at SAP PRESS: https://www.sap-press.com/sap-s4hana-business-process-integration-certification-guide_5238/

Design Thinking

	L	T	P	C
Course Code: 2501CS73	0	0	1	1

Course Outcomes:

At the end of the course, student will be able to:

- **CO1**: Define Design Thinking process.
- **CO2**: Name the stages involved in the process.
- **CO3**: Demonstrate Design Thinking process in refining the problem through stages of scoping, research, synthesis.
- **CO4**: Demonstrate Design Thinking process in solving the problem through stages of ideation, prototyping, validation.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	1				1	1		1	1		1
CO2	1				1	1		1	1		1
CO3	1				1	1		1	1		1
CO4	1				1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	1
CO4	1	1

UNIT – I

Introduction to Design Thinking

Overview and theoretical Introduction of the Design Thinking topic.Working in groups on simulated challenge and going through the whole Design Thinking cycle. During the process many typical Design Thinking technics and methods will be used.

UNIT - II

Scoping

Brain dump of the knowledge of the team members to get a common understanding of the challenge.

UNIT – III

Research and Synthesis

Preparation and execution of interviews to gather relevant user data and generating emphatic understanding of the user.

Communicate the collected data in the team (storytelling), compression of the data with the help of Persona Definitions and Point of View techniques.

UNIT – IV

Ideation
Generating solution ideas using various creativity- enhancing techniques (e.g. brainstorming, Remember the Future, etc.).

UNIT -V

Prototyping and Validation
Building a "low-fidelity" prototype which addresses the challenge. Presentation of the prototype; learning from the feedback.

Text Books:

1 THINK1-Design Thinking for Business Innovation course available in SAP learning Hub.

Reference Books:

1 Design Thinking with SAP by Anne Johnson and available at SAP PRESS: https://www.sap-press.com/design-thinking-with-sap_4643/?srsltid=AfmBOoqwMjZhvJHFQd-ZWUMwboj7DbB6GtRlEeAmTDKk64J7gc7XR9mm.

Basic ABAP Programming

	L	T	P	C
Course Code: 2501CS74	**2**	**0**	**2**	**4**

Course Outcomes:
At the end of the course, student will be able to:

- **CO1:** Develop using ABAP development environment.
- **CO2:** Make use of basic techniques in ABAP language.
- **CO3:** Utilize ABAP SQL.
- **CO4:** Model using Object Orientation in ABAP.
- **CO5:** Develop interfaced.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	1		1		1	1		1	1		1
CO2	1		1	1	1	1		1	1		1
CO3	1		1		1	1		1	1		1
CO4	1		1		1	1		1	1		1
CO5	1		1		1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	
CO4	1	
CO5	1	

UNIT – I

Working with ABAP Development Environment
Development model in SAP S/4HANA, ABAP development environment.

Practice:
1. Creating ABAP development objects
2. Writing ABAP development objects

UNIT – II

Basic techniques in ABAP language
Working with variables, debugging, re-usable procedures, structures, internal tables.

Practice:

1. Using and working with variables
2. Handling errors
3. Debugging
4. Using classes and function modules
5. Creating and declaring structures
6. Creating and working with internal tables

UNIT – III

Using ABAP SQL to access the database

Understanding open SQL, creating and reading database tables, core data services in SAP S/4HANA.

Practice:

1. Creating database tables
2. Reading single row
3. Reading multiple rows

UNIT – IV

Object Orientation in ABAP

Modelling classes, creating classes, creating objects, call methods, using constructors, factory methods, inheritance

Practice:

1. Creating a class
2. Creating objects
3. Calling methods
4. Creating constructors
5. Using factory methods

UNIT – V

Interfaces

Using interfaces

Practice:

1. Implementing interfaces

Text Books:

1 S4D400_Basic ABAP Programming course available in SAP learning Hub.

Reference Books:

1 ABAP An Introduction by Brian O'Neill & Jelena Perfiljeva, and available at SAP PRESS: https://www.sap-press.com/abap_4955/.

Intermediate ABAP Programming
(Common to CSE, IT, AIML & CSE (DS))

	L	T	P	C
Course Code: 2501CS75	**3**	**0**	**0**	**3**

Course Outcomes:
At the end of the course, student will be able to:

- **CO1:** Analyze and test ABAP code.
- **CO2:** Use data types, type conversions, ABAP SQL code pushdown, process character fields.
- **CO3:** Solve internal table performance issues.
- **CO4:** Build authorization checks.
- **CO5:** Design object oriented code, define exception classes, document ABAP code.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2		2		2	1		1	1		1
CO2	2		2		2	1		1	1		1
CO3	2			2	2	1		1	1		1
CO4	2		2		2	1		1	1		1
CO5	2		2		2	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1		2
CO2		2
CO3		2
CO4		2
CO5		2

UNIT – I

Analyzing and Testing Code:

1. Improving code quality using ABAP Test Cockpit
2. Implementing code tests with ABAP Unit
3. Measuring run time consumption with ABAP Profiling
4. Analyzing database access with SQL Trace

UNIT – II

Using Data Types and Type Conversions, Processing Character Fields, Using Code Pushdown in ABAP SQL:

1. Classifying technical data types in ABAP

2. Avoiding pitfalls of type conversions
3. Calculating with dates, times, and timestamps
4. Using translatable text in ABAP
5. Processing strings using functions and regular expressions
6. Implementing Joins
7. Working with expressions in ABAP SQL
8. Performing calculations and string processing in ABAP SQL
9. Using special built in functions in ABAP SQL
10. Sorting and Condensing data sets in ABAP SQL

UNIT – III

Improving Internal Table Performance:

1. Processing the contents of internal tables
2. Using field symbols to process internal tables
3. Working with sorted and hashed tables
4. Improving internal table performance using secondary keys

UNIT – IV

Implementing Authorization Checks:

1. Describing authorization concept in ABAP
2. Using CDS access controls
3. Using Authority-Check statement.

UNIT – V

Designing Effective Object-Oriented Code, Defining and Working with Exception Classes, Adding Documentation to ABAP Code:

1. Implementing inheritance
2. Using inheritance
3. Defining interfaces
4. Using interfaces
5. Implementing factory methods
6. Working with exception classes
7. Defining own exception classes
8. Documenting ABAP code

Text Books:

1 S4D401_Intermediate ABAP Programming course available in SAP learning Hub.

Reference Books:

1 Complete ABAP by Kiran Bandari, and available at SAP PRESS: https://www.sap-press.com/complete-abap_5567/.

Advanced ABAP Programming

	L	T	P	C
Course Code: 2501CS76	**2**	**0**	**2**	**4**

Course Outcomes:
At the end of the course, student will be able to:

CO1: Define view entities in ABAP core data services.
CO2: Work with ABAP Restful Application Programming Model.
CO3: Create Transactional Apps.
CO4: Implement in app, key user, and side by side extensions.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	3		3		3	1		1	1		1
CO2	3		3		3	1		1	1		1
CO3	3	1	3		3	1		1	1		1
CO4	3	1	3		3	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PO	PSO1	PSO2
CO1		3
CO2		3
CO3		3
CO4		3

UNIT – I

CDS Views
SQL features in CDS views, advanced concepts, database specific features, consumption of CDS views.

Practice:
1. Create project, package, and program in ADT
2. Analyze CDS view and use in open SQL
3. Define CDS view
4. Use SQL expressions in CDS views
5. Use built in functions in CDS views
6. Define CDS views with aggregation and UNION statement
7. Define CDS views with input parameter, associations
8. Enhance CDS views
9. Create and use access control
10. Define and use CDS table function

UNIT – II

ABAP Restful Application Programming Model (RAP)
ABAP Restful Application Programming Model (RAP), RAP Business Objects.

Practice:

1. Define CDS based data model
2. Define and preview an OData Ui service
3. Define a RAP business object and its behavior
4. Read and update RAP business object
5. Establish optimistic concurrency control
6. Define and implement an action
7. Implement authority checks

UNIT – III

Transactional Apps
Update and create in managed transactional apps, draft enabled transactional apps, transactional apps with composite business object, transactional apps with unmanaged business objects.

Practice:

1. Provide input fields and value help
2. Provide input checks through validations
3. Enable managed numbering and implement determinations
4. Implement dynamic actions and field control
5. Enabling draft handling for RAP object
6. Enable draft handling for SAP Fiori elements app and adjust implementations
7. Define composite RAP object
8. Define composite OData service with RAP
9. Implement behavior of a composite RAP object
10. Define an unmanaged business object
11. Implement an unmanaged business object

UNIT – IV

Extensibility
SAP S/4HANA extensibility overview, SAP Fiori launchpad adaptation, Key User Extensibility.

Practice:

1. Add new app in Fiori launchpad
2. Create Fiori launchpad plugin
3. Adapt filter settings and table parameters
4. Create data source extension
5. Create and enable custom fields
6. Create custom logic

7. Create custom business object
8. Create UI for custom business object
9. Implement custom logic for custom business object
10. Create and use custom library
11. Create and use custom code list
12. Assign extensions to software package and transport request

UNIT – V

Side by Side Extensibility

Side by Side extensibility overview, options for side by side extensibility, choice of right option for side by side extensibility.

Practice:

1. Connect ABAP development tools to SAP BTP ABAP environment
2. Create an ABAP package
3. Create database table in SAP BTP ABAP environment
4. Generate OData service for base application
5. Adjust labels for Fiori elements application
6. Create service consumption model for on premise OData service
7. Create console application to test service consumption model
8. Create custom entity
9. Implement query implementation class of custom entity
10. Expose custom entity via service definition and integrate into base application

Text Books:

1 S4D430_Data Modelling in ABAP Dictionary and ABAP Core Data Services.
2 S4D437-Building Transactional Apps with the ABAP RESTful Application Programming Model.
3 S4D425_Extensibility for SAP S/4HANA
courses available in SAP learning Hub.

Reference Books:

1 ABAP RESTful Application Programming Model - The Comprehensive Guide by Lutz Baumbusch, Matthias Jäger, Michael Lensch , and available at SAP PRESS: https://www.sap-press.com/abap-restful-application-programming-model_5647/?srsltid=AfmBOorrn2-nGpiBdu5xrbcm_0Ha9OEzHDJkhs1sQr5x_4PQbpI6lQju

Fiori Programming-Basic

L	T	P	C
2	0	2	4

Course Code: 2501CS77

Course Outcomes:
At the end of the course, student will be able to:

CO1: Configure and customize SAP Fiori.
CO2: Adapt and mobilize SAP Fiori applications
CO3: Integrate SAP Fiori in different environments.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	1				1	1		1	1		1
CO2	1				1	1		1	1		1
CO3	1				1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1		1
CO2		1
CO3		1

UNIT – I

End-User Perspective, Technology, Architecture
Fiori design, launchpad, data handling, user interfaces, data services, application types, ABAP platform, SAP HANA, SAP S/4HANA, SAP Fiori development, BTP services, launchpad services.

Practice:
1. Explore SAP business application studio
2. Use Fiori tools
3. Operate SAP Gateway
4. Operate SAP Fiori apps reference library
5. Debug
6. Operate SAP HANA cockpit
7. Test ABAP CDS views
8. Test SAP Fiori elements list report

UNIT – II

Configuration, Content Administration, Adaptation, Mobility, Integration
Fiori content, spaces and pages, groups, catalogs, target mappings, rapid activation for SAP Fiori, basic roles, launchpad configuration, trouble shooting, UI theme designer, SAP Fiori mobile, SAP Fiori for iOS.

Practice:

1. Create business roles
2. Create SAP Fiori spaces and pages
3. Create SAP Fiori groups and catalogs
4. Create Target mapping
5. Create technical, standard, replicable catalogs
6. Configuring Fiori Launchpad

UNIT – III

Adaptation, Mobility, Integration

UI Theme Designer, Adapt and Extend SAP Fiori Launchpad, SAP Fiori Mobile, SAP Fiori for iOS, SAP Business Technology Platform, SAP Build Work Zone, standard edition.

Practice:

1. Create Fiori themes
2. Adapt Fiori themes in runtime
3. Activate plugin for Fiori launchpad
4. Test SAP Mobile cards
5. Test SAP Mobile Services Client
6. Test SAP Fiori Mentor
7. Connect to SAP Business Technology Platform
8. Operate SAP launchpad service

UNIT – IV

SAP Business Application Studio

SAP Business Application Studio, Loading and Initializing SAPUI5, Modules and Dependencies, Views and Controllers, Components, Implementing the UI, Fragments, Models and Data Binding, Localization.

Practice:

1. Create Fiori app using Layout Editor
2. Deploy SAP UI5 application using SAP Business application studio
3. Bootstrap SAP UI5
4. Create and use an XML view
5. Create and use a view controller
6. Add UI with a form
7. Implement popup using fragment
8. Add JSON model to application
9. Use aggregation and element bindings
10. Workflow with data types
11. Implement formatter function
12. Use translatable texts

UNIT – V

OData Service, Models, Routing and Navigation
OData Services, OData Model, Routing and Navigation.

Practice:

1. OData queries
2. Add OData model to application
3. Implement OData create operation
4. Configure routing
5. Add back navigation
6. Catch invalid hashes
7. Navigate to a route with a mandatory parameter

Text Books:

1 UX100_SAP Fiori – Foundation.
2 UX400_Developing UIs with SAPUI5
courses available in SAP learning Hub.

Reference Books:

1 SAP Fiori Certification Guide written by Krishna Kishor Kammaje and available at SAP PRESS: https://www.sap-press.com/sap-fiori-certification-guide_5221/.

Fiori Programming – Intermediate

	L	T	P	C
Course Code: 2501CS78	**2**	**0**	**2**	**4**

Course Outcomes:
At the end of the course, student will be able to:

CO1: Implement full screen and master detail applications.
CO2: Extend UI5 applications.
CO3: Version control when working in Teams.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	2				2	1		1	1		1
CO2	2				2	1		1	1		1
CO3	2				2	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1		2
CO2		2
CO3		2

UNIT – I

SAP User Experience and UI5 Strategy
SAP User Experience strategy, Tools and Techniques.

Practice:
1. Set up SAP cloud platform account.

UNIT – II

MVC review and advanced UI controls
MVC architecture review, full screen application, master detail application, Controls, Testing.

Practice:
1. Create UI5 application project
2. Implement full screen application
3. Implement master detail application
4. Adjust applications for a mobile device
5. Extend existing controls
6. Create custom controls

7. Implement reusable UI library
8. Create XML composite control
9. Write Unit and OPA tests.

UNIT – III

Advanced Data Handling
OData Services, Smart Controls, Fiori Elements.

Practice:
1. Working with OData models
2. Run application with mock data
3. Implement deep insert
4. Implement OData service for smart fields
5. Implement an application using smart table
6. Implement SAP Fiori app using SAP Fiori elements and remote annotations.

UNIT – IV

Application Extensibility
Extension points, Fiori extensibility options.

Practice:
1. Extend an application

UNIT – V

Version Control
GIT, GIT repositories, branches.

Practice:
1. Work with local GIT repository
2. Work with remote GIT repository
3. Work with Branches

Text Books:

1 UX402_Advanced SAPUI5 Development course available in SAP learning Hub.

Reference Books:

1 SAP Fiori Certification Guide written by Krishna Kishor Kammaje and available at SAP PRESS: https://www.sap-press.com/sap-fiori-certification-guide_5221/.

Fiori Programming - Advanced

	L	T	P	C
Course Code: 2501CS79	**2**	**0**	**2**	**4**

Course Outcomes:
At the end of the course, student will be able to:

- **CO1**: Use guided development of SAP business application studio.
- **CO2**: Work with Fiori elements.
- **CO3**: Adapt and extend Fiori elements applications.
- **CO4**: Design, develop, and enhance SAP Fiori UIs.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11
CO1	3		3		3	1		1	1		1
CO2	3		3		3	1		1	1		1
CO3	3	1	3		3	1		1	1		1
CO4	3	1	3		3	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1		3
CO2		3
CO3		3
CO4		3

UNIT – I

SAP Fiori Elements
SAP UX strategy, SAP Fiori Elements overview, list report, object page, overview page, analytical list page, SAP Fiori elements applications.

Practice:

1. 1. Set up backend and frontend development environments
2. Create Fiori elements application
3. Create list reports using CDS annotation, metadata extension
4. Create basic list report and enhance with search and filtering capabilities
5. Build basic object page with CDS annotation
6. Add header facets
7. Add headers and sections to object page
8. Navigate to external URL
9. Visualize list report
10. Create charts
11. Create overview page
12. Create content area, filter area, title area of an analytical list page
13. Extend list report with custom actions

14. Extend overview page with customer filter and custom card

UNIT – II

User experience design, guidelines, development basics
Permissioned Blockchain, Permisionless Blockchain, Different Consensus Mechanisms- Proof of Work, Proof of Stake, Proof of Activity, Proof of Burn, Proof of Elapsed Time, Proof of Authority, Proof of Importance, voting-based consensus algorithms, and federated consensus.

Practice:
1. Create SAP UI5 application using layout editor
2. Set up SAP cloud connector
3. Deploy SAP UI5 application using SAP business application studio

UNIT – III

SAP UI5 advanced topics
Remote Vs Local OData services, OData models, OData inserts, smart controls.

Practice:
1. Work with Diagrams

UNIT – IV

SAP Fiori launchpad, design guidelines
Extension points, other types of extensibilities in SAP UI5.

Practice:
1. Navigate in SAP Fiori
2. Create a dynamic page app
3. Create master detail using flexible column layout
4. Implement value helps
5. Implement list report
6. Implement object page

UNIT – V

SAP Fiori flexibility, elements, continuous integration and delivery
GIT, GIT repositories, branches.

Practice:

1. Implement and extend an extension point
2. Implement list report using SAP Fiori elements
3. Implement search and filter
4. Implement object page SAP Fiori elements

5. Display dependent entities as SAP Fiori elements

Text Books:

1 UX403_SAP Fiori Elements Development.
2 UX410_Developing SAP Fiori UIs.
courses available in SAP learning Hub.

Reference Books:

1 SAP Fiori implementation and development by Souvik Roy, Aleksandar Debelic, Gairik Acharya , and available at SAP PRESS: https://www.sap-press.com/sap-fiori-implementation-and-development_5449/?srsltid=AfmBOorbWwvAUueDAGyehX6cjTORHxClyZWEf2R6koHhXBzfGcOMZ9MS.

Cloud ERP Implementation Methodology

	L	T	P	C
Course Code: 2501CS80	**2**	**0**	**1**	**3**

Course Outcomes:
At the end of the course, student will be able to:

- **CO1:** Understand foundations of the SAP Activate implementation framework and components.
- **CO2:** Apply methodology to an S/4HANA implementation project, leveraging SAP Signavio and SAP Cloud ALM.
- **CO3:** Release planning, sprint cycles using Agile approach.

Mapping of Course Outcomes with Program Outcomes:

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
CO1	1				1	1		1	1		1
CO2	1				1	1		1	1		1
CO3	1				1	1		1	1		1
CO4	1				1	1		1	1		1
CO5	1				1	1		1	1		1

Mapping of Course Outcomes with Program Specific Outcomes:

CO/PSO	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	
CO4	1	
CO5	1	

UNIT – I

SAP Activate Methodology
SAP Activate, 3 pillars of SAP activate, methodology structure, analyzing each phase of SAP Activate, accessing content, discovering clean core concept.

UNIT – II

SAP Signavio and SAP Cloud ALM

Challenges and opportunities transforming to SAP S/4HANA, SAP Signavio, support to S/4HANA transformation projects, Illustrating SAP Cloud ALM.

UNIT – III

Agile Framework
Agile and SCRUM 101, identifying Agile Project Fit, Agile project organization, roles and responsibilities, Preparing Agile project.

Practice:
1. Simulate simple SCRUM
2. Access and navigate through SAP Activate
3. Case study on Agile project fit

UNIT – IV

Creating Backlog
Explore phase, create backlog, Definitions of ready and done.

Practice:
1. User story maps
2. Create user stories
3. Rank user stories and define releases

UNIT – V

Iterative Build
Release planning, sprint cycle, analysis / testing. deploy.

Practice:
1. Estimate user stories
2. Release planning using two SCRUM teams

Text Books:

1 ACT100_SAP Activate Methodology.
2 ACT200_Agile Project Delivery
courses available in SAP learning Hub.

Reference Books:

1 SAP Activate Project Management Certification Guide written by Aditya Lal, Jeyaganesh Viswanathan. and available at SAP PRESS: https://www.sap-press.com/sap-activate-project-management-certification-guide_6032/