COURSE OUTLINE : CS/IS 241
D Credit – Degree Applicable
COURSE ID 010437
Cyclical Review: May 2021

COURSE DISCIPLINE : CS/IS

COURSE NUMBER : 241

COURSE TITLE (FULL) : Cloud Computing - Databases Essentials

COURSE TITLE (SHORT) : Cloud Computing - Databases Essentials

CALIFORNIA STATE UNIVERSITY SYSTEM C-ID : IT IS 180 - Introduction to Database Management Systems

ACADEMIC SENATE DISCIPLINE: Computer Information Systems

CATALOG DESCRIPTION

CS/IS 241 addresses cloud database implementation and management where students will define, operate and scale both SQL servers. The course will include exercises using Amazon Relational Database Service (RDS) and SQL to create and fill tables, retrieve and manipulate data and will use Amazon DynamoDB for noSQL solutions. This course will provide hands-on labs using for cloud database implementation and management.

Total Lecture Units:2.00

Total Laboratory Units: 1.00

Total Course Units: 3.00

Total Lecture Hours:36.00

Total Laboratory Hours: 54.00

Total Laboratory Hours To Be Arranged: 0.00

Total Contact Hours: 90.00

Total Out-of-Class Hours: 72.00

Recommended Preparation: CS/IS 240.

ENTRY STANDARDS

	Subject	Number	Title	Description	Include
1	CS/IS	240	Cloud Computing – Fundamentals	Describe the cloud computing model;	Yes
2	CS/IS	240	Cloud Computing – Fundamentals	describe examples of infrastructure as a service;	Yes
3	CS/IS	240	Cloud Computing – Fundamentals	describe examples of platform as a service;	Yes
4	CS/IS	240	Cloud Computing – Fundamentals	describe examples of software as a service;	Yes
5	CS/IS	240	Cloud Computing – Fundamentals	identify and mitigate security concerns associated with cloud computing.	Yes

EXIT STANDARDS

1 Describe how SQL and noSQL database web services can be used to store data;
2 Identify and compare the three available data source types: structured, unstructured, and semistructured.
3 Identify different database types and for which use cases they are best suited.
4 Describe server-based and server-less architectures, including use cases for each type.
5 Compare and categorize relational and non-relational database services.
6 Identify methods of migrating data to cloud services.

STUDENT LEARNING OUTCOMES

1 Explain the design principles that reduce redundancy and increase performance.
2 Describe the use of a database management system language in the cloud

COURSE CONTENT WITH INSTRUCTIONAL HOURS

	Description	Lecture	Lab	Total Hours
1	Introduction cloud database	4	6	10
2	Amazon database web services, the Management Console, Regions and Availability Zones	4	6	10
3	relational database model	4	6	10
4	Amazon RDS Entity relationship modeling	4	6	10
5	Amazon RDS Datatypes (numeric, character and date)	4	6	10
6	Amazon RDS (Scripts and SQL commands)	4	6	10
7	Amazon DynamoDB	4	6	10
8	Amazon web services (AWS) File storage and retrieval	4	6	10
9	Amazon web services (AWS) backups and logs	4	6	10
				90

OUT OF CLASS ASSIGNMENTS

1 Projects (Amazon RDS setup)

METHODS OF EVALUATION

1 Exams
2 Projects (Amazon RDS setup)
3 Labs (Implementing DynamoDB)

METHODS OF INSTRUCTION

- [x] Lecture
- [x] Laboratory
- [ ] Studio
- [x] Discussion
- [ ] Multimedia
- [ ] Tutorial
- [ ] Independent Study
- [x] Collaboratory Learning
- [x] Demonstration
- [ ] Field Activities (Trips)
- [ ] Guest Speakers
- [x] Presentations

TEXTBOOKS

Title	Type	Publisher	Edition	Medium	Author	IBSN	Date
AWS Database Migration Service Step-by-Step Migration Guide		Samurai Media Limited				978-9888408863	2018
Open Educational Resources				Open Educational Resources will be used by instructors of this course			