Faculty of Computers and Information Technology

Selected Topics in Information Systems-1

Information :

Course Code : IS467	**Level :** Undergraduate	**Course Hours :** 3.00- Hours

Department : Department of Information Systems

Instructor Information :

Title	Name	Office hours
Lecturer	Hussein Mohamed Mohamed Ali Harb	
Lecturer	Esam eldeen fawzy Elfagharany	
Teaching Assistant	Debaj Shady Mahmoud Talha Mohamed Elmaghraby	
Teaching Assistant	Hoda Ahmad Moustafa Abdelrahman Ismail	
Teaching Assistant	Salma Mohamed Shalaby Abdelaziz	

Area Of Study :

Use modern techniques, up to date methods and tools for computing and information practice.
Use and adopt the appropriate knowledge and skills base to pursue a career managing, developing and adopting non-relational databases commonly referred to as NoSQL databases.
Explore the origins of NoSQL databases and the characteristics that distinguish them from traditional relational database management systems.
Identify the core concepts of NoSQL databases followed by an exploration of how different database technologies implement these core concepts.
Provide the community with professional expertise in NoSQL database systems via co-operation between the Faculty (and its staff) and other external organizations in the society.
Use effectively communication skills.

Description :

Topics which are not included in the curriculum and seems to be needed should be suggested as an elective course by IS department.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Describe competency in designing NoSQL databases
2 -	Identify new trends in IS
3 -	Explain different NoSQL models and their differences from relational databases
4 -	Illustrate management process for software projects and productions
5 -	Identify the principles of cloud data management.

b.Intellectual Skills: :

1 -	Demonstrate the role of modern database systems in the society
2 -	Compare and differentiate between relational database systems and non-relational database systems

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3 -	Select analytical skills for No-SQL database systems	
4 -	Evaluate and integrate data and information for problem solving	
5 -	Evaluate and verify different solutions for NoSQL database systems using a well-defined criteria	

c.Professional and Practical Skills: :

1 -	Adapt different skills for information management, organization and retrieval
2 -	Execute different NoSQL database management systems techniques.
3 -	Maintain existing NoSQL database systems

d.General and Transferable Skills: :

1 -	Work in a team to develop the requirement documentation
2 -	Apply communication skills in presentations and report writing using various methods and tools
3 -	Appreciate continuous professional development and lifelong learning

ABET Course outcomes :

1 -	Recognize complex datasets of structured and unstructured data and able to visualize such data data visualization tools
2 -	Understand Big Data and its analytics in the real world
3 -	Analyze the Big Data framework like Hadoop and NOSQL to efficiently
4 -	Store and process Big Data to generate analytics

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction	4	2	2
Differences from Relational Databases	4	2	2
NoSQL Database Theory	4	2	2
Key-Value Databases	4	2	2
Document Stores	4	2	2
Column Family Stores	4	2	2
Graph Databases	4	2	2
The Database Landscape	4	2	2
Mid-Term Exam	2		
Choosing a NoSQL Database	4	2	2
Distributed and Cloud Databases	4	2	2
Big data and NoSQL Applications	4	2	2
Project presentation	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

Interactive Lectures including discussion
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)

Brain Storming and Problem Solving

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final Exam	40.00	14	
Midterm Exam (s)	20.00	9	
Quizzes	10.00	5	
Research and Presentations	10.00	10	
Team Work Projects	20.00	11	

Course Notes :

Course Notes are available with all the slides used in lectures in electronic form on Learning Management System (Moodle)

Recommended books :

Eric Redmond; Jim R. Wilson. Seven Databases in Seven Weeks: A Guide to Modern Databases and the NoSQL Movement. Pragmatic Bookshelf. 2012. ISBN: 1934356921 (ER)

Web Sites :

˝Áwww.ekb.eg
˝Áhttps://academic.oup.com/database

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