

**College of Micronesia-FSM**

Business Administration Division

*Fall 2017*

**Course Number** : IS 230

**Course Title**  : Database Design

**Course Credit** : 3 units

**Pre-requisite** : IS 201, MS100

**Room No.** : B102

**Lecture Time** : 3:30-4:55 (TTH)

**Instructor** : Edper M. Castro

**Office Hours** : 2:00pm – 3:00pm (Monday to Friday)

**Email - COM** : emcastro@comfsm.fm

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**Website** : <http://www.comfsm.fm/~emcastro>

1. **VISION, MISSION, GOALS AND OBJECTIVES**
2. **College Goals**

 The College of Micronesia–FSM, through a cycle of assessment and review, will continuously improve to meet or exceed current accreditation standards and will.

1. Promote learning and teaching for knowledge, skills creativity, intellect and the abilities to seek and analyze information and to communicate effectively

2. Provide institutional support to foster student success and satisfaction

3. Create an adequate, health and functional learning and working environment.

4. Foster effective communication

5. Invest in sufficient qualities, and effective human resources.

6. Ensure sufficient, and well-manage fiscal resources hat maintain financial stability.

7. Build a partnering and services network for community, workforce and economic development.

8. Promote the uniqueness of our community, cultivate respect for individual difference, and champion diversity.

9. Provide for continuous improvement of programs, services and college environment

1. **College Vision**

 The College of Micronesia-FSM will assist the citizens of the Federated States of Micronesia to be well-educated, prosperous, globally-connected, accountable, healthy and able to live in harmony with the environment and the world community.

1. **College Mission**

Historically diverse, uniquely Micronesian and globally connected, the College of Micronesia-FSM is a continuously improving and student centered institute of higher education. The college is committed to assisting in the development of the Federated States of Micronesia by providing academic, career and technical educational opportunities for student learning.

1. **Program Goals:**

1. To provide the students an in-depth knowledge of computer information systems necessary for them to understand and appreciate how CIS fits to the achievement of an organization’s objectives.

2. To provide literacy training on basic software productivity tools such as word processing, spreadsheets, electronic presentations, desktop publishing, internet and other office applications.

3. To help the students understand and apply various computer information systems tools such as database design and management, webpage engineering, programming and networking.

4. To ingrain to the students the necessity of continuous upgrading to keep at pace with the ever-changing nature of the information and communications technology.

5. To prepare graduates of this program to advance to a higher information and communications technology program.

1. **Division Mission:**

The Business Division of the College of Micronesia-FSM is committed to provide academic, career and technical educational opportunities in the fields of accounting, business, and computer information systems as gateways to the students' personal and professional growth, and for the economic development and self-reliance of the Federated States of Micronesia.

1. **Program Mission:**

CIS provides students with a solid foundation in theory and practice of the computer information systems and prepare them to meet the immediate job market needs, adapt themselves to the rapidly evolving computer industry and further their education in a higher degree program. This contributes to the college’s mission of assisting in the development of the Federated States of Micronesia, and to be globally connected.

1. **Division Goals:**

1. To develop students with appropriate skills and values in the areas of accounting, business, and computer information systems that will be useful in their future employment or entrepreneurial pursuits.

2. To prepare the students who intend to further their studies and pursue higher degree(s) in other learning institutions.

3.To spearhead the move towards establishing linkages with other academic institutions, the community, government, and private business sector.

4.To develop and offer 4-year degree programs in the field of accounting, business, and computer information systems.

1. **INSTITUTIONAL AND PROGRAM LEARNING OUTCOMES:**

**Program Learning Outcomes:**

1. Demonstrate an in-depth understanding of technical concepts and ethical issues pertaining to information systems

2. Demonstrate theoretical knowledge and practical skills in the management and strategic use of information systems and technology.

3. Demonstrate proficiency in the use of different software applications significant to manipulating and analyzing information as well as generating and presenting reports in the various functional areas of business.

4. Demonstrate solid foundation skills in database design and management, web engineering, programming, and networking;

5. Demonstrate the ability to adapt to latest technologies using their foundation knowledge and skills from CIS.

**Institutional Learning Outcomes:**

COM-FSM graduates will demonstrate that they can:

a. communicate effectively

b. effective written communication

c. critical thinking

d. problem solving

e. intercultural knowledge and competence

 f.  information literacy

d. foundations and skills for life-long learning.

e. quantitative reasoning

1. **Course Description**

This course covers the fundamentals of database and its design. Fundamentals of database include the advantages of relational database compared to flat-file database, hierarchy of data (e.g. field, record, table), types of relationship among tables and SQL (Structured Query Language). On database design topics include normalization, data modeling using conceptual model (e.g. ERD) and logical model.

1. **Course Learning Outcome**

Upon successful completion of this course, students will be able to :

1. Differentiate flat-file from relational database.
2. Identify the Hierarchy of Data, its difference and as well as its relationship from one another.
3. Identify different type of table relationships.
4. Demonstrate the ability to use important SQL construct to access or manipulate a database.
5. Design a conceptual model for database using ERD.
6. Demonstrate understanding of Normalization.
7. Create an actual database using a conceptual model and normalization concepts.
8. **Course Requirements**
* Laboratory Activities (Assignments and Projects)
* Quizzes
* Midterm and Final Exam
* Attendance
1. **Course Outline**

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| --- | --- | --- | --- |
| **Week** | **Topics** | **Reference** | **Assessment** |
| 1 | Course Orientation  | Syllabus |  |
| 1,2 | Introduction to Database | Chapter 1 | Graded Exercise, Quiz 1 |
| 3-7 | Introduction to T-SQL | Chapter 3 | Graded Exercise, Quiz 2 |
| 8 |  |  | **Midterm Exam** |
| 9-10 | Introduction to Database Design Concepts *– Keys, Relationship and Referential Integrity* | Chapter 4 | Graded Exercise |
| 10-13 | Introduction to Database Design Concepts *– Conceptual Modeling using ERD* | Chapter 6 | Graded Exercise, Quiz 3 |
| 14-16 | Introduction to Database Design Concepts *– Normalization* | Chapter 5 | Graded Exercise, Quiz 4 |
| 17 | Applying Database Design Concepts using MS Access  |  | Graded Exercise |
| 18 |  |  | **Final Exam** |

1. **Methods of Instruction**
2. Lecture using PowerPoint slides
3. Hands-on practice
4. Calibrated Exercises
5. Project
6. **Grading Criteria**

|  |
| --- |
| ***Grade Distribution*** |
| **Distribution** | **Points** |
| Weekly Activities/Project | 45 |
| Attendance | 5 |
| Quizzes | 10 |
| Midterm Exam | 20 |
| Final Exam/Project | 20 |

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| --- |
| ***Grade Table*** |
| **Points** | **Grade** |
| 90-100 | A |
| 80-89 | B |
| 70-79 | C |
| 60-69 | D |
| < 60 | F |

1. **Textbook Reference**

None

1. **Required Materials**

*Pratt, Philip J. (2012). Concepts of Database Management 7th Edition, United States: Boston, MA (Course Technology)*

1. **Academic Honesty**

To ensure the integrity of the educational process and the institution, the College encourages honesty, and therefore does not condone cheating, plagiarism, or any related form of academic dishonesty which prevents an instructor from being

able to assess accurately the performance of a student in any facet of learning.

1. **Attendance Policy and House Rules**

Those who incur **more than 4 absences** on this class shall automatically be dropped

**Attendance Policy**

Those who incur **more than 4 absences** on this class shall automatically be dropped out from the official class roster with a grade of ‘F’. The total missed classes include unexcused and excused absences, such as sickness, funerals (except for close relatives like parents or siblings), and other circumstances. Moreover, those who will come in 10 minutes or more after the start of the class shall be considered as late. And those who come in 30 minutes or more on this class after the start of the class shall be considered as absent but will be allowed to join the class. However, if there is an activity the same student will not be graded for such activity even if he/she performs the activity during that time.

**House Rules**

1. Turn off or put in silent mode your cell phone when in class.
2. Do not use or surf the Internet while there is an ongoing lecture or activity/exercise. However, if there is no activity yet, or you completed your activity earlier and there is no ongoing lecture you are allowed to use the Internet.
3. No any form of liquid for drinking (e.g. soda, juice, water) shall be brought inside the Lab.
4. No smoking or chewing betel nut while on the lab.
5. If you need assistance from the teacher, just simply raise your hand and the teacher will be your side to attend to your need(s) once he/she is free to do so.
6. If you find the lecture too fast, kindly just raise your hand and inform the teacher to slow down or to repeat something. The teacher will not take that as something offensive or disrespectful. However, be sure that you are not doing something else that is against the rules stated above (e.g. surfing the Internet while the teacher is on lecture) and at the same time asking for your teacher to repeat it.
7. Do not leave room without permission from the Instructor during class time.
8. You are expected to read ahead the chapters given to you for reading before coming to class.

**Note :** Those who repeatedly violate rules 2,3 & 4 will be forewarned first and after 3 violations or more, the SSP head and the Chairperson will be given notice after a private discussion with the teacher in charge.