

# **PROGRAM REVIEW**

## **COMPUTER INFORMATION SYSTEMS**

### **NATIONAL CAMPUS**

#### **YEAR 2011**

**Campus Location:**

National Campus

**Program Name :**

Computer Information Systems

**Division Affiliation:**

Business Division

**List all degrees awarded:**

A.S. in Computer Information Systems

**Program Review Committee:**

Joseph Felix Jr. - Chair – Business Division  
Edper Castro - Instructor - CIS  
Marlene Mangonon - Instructor – CIS/Marketing

**Institutional 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 education opportunities for student learning.

## **I. PROGRAM ESSENTIALS**

- a. **HISTORY:** In today's world, information is a very vital resource in an organization. In order to efficiently utilize information of any form in an organization however, this has to be processed within the organization. This is where information technology with its varied tools becomes very indispensable.

In the Federated States of Micronesia, however humble its beginning might be, it is imperative that this information technology, coupled with communications has to be taught and learned in the lone college so that the people can be educated and organizations can adapt to, and gradually become at pace with the world trend. With this necessity, the semester Fall 1998 saw the emergence of a new academic program offering at COM-FSM's Business Division, the Associate of Science Degree in Computer Information Systems.

**b. DESCRIPTION:** The Associate of Science in Computer Information Systems program concentrates on organizational applications of information and communications technology and the development of systems and their management. Students receive a fundamental understanding of programming, web engineering, database designing and networking, which prepare them for high-in-demand careers such as programmers, webmasters, network administrators, systems analysts, etc.

**c. MISSION:** Associate of Science in Computer Information Systems provides students with a solid foundation in theory and practice of the computer information systems and prepares 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.

**d. 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.

**e. LEARNING OUTCOMES :**

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

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

**Outcome 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.

**Outcome 4:** Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;

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

**f. ADMISSION REQUIREMENTS :**

Applicants must meet the following admission requirements to be matriculated into this degree program:

1. Have graduated or will graduate from high school at the end of the current school year, or have a GED certificate;
2. Have a minimum high school grade point average of 2.0 as measured on a 4.0 scale, or a minimal score of 35 on each section and an average of 45 for all five sections of the GED test, and;
3. Be accepted by the COM-FSM Admissions Board.

**g. DEGREE REQUIREMENTS – In Summary**

- |   |   |                         |
|---|---|-------------------------|
| i. Satisfactory completion of the applicable General Education Core | - | <b>29 credits</b>       |
| ii. Satisfactory completion of the prescribed CIS major courses     | - | <b>40 credits</b>       |
| <b>TOTAL</b>  |   | <hr/> <b>69 credits</b> |
| iii. Cumulative Grade Point Average (GPA) of at least               |   | <b>2.0</b>              |

**h. DEGREE REQUIREMENTS – Detail**

- i. **Preparatory Courses – By Placement**
- ii. **General Education Core courses**

**English (9 credits)**

EN 110 Advanced Reading (3)  
EN 120a Expository Writing I (3)  
EN 120b Expository Writing II (3)

**Mathematics (3 credits)**

Any 100 level or above mathematics course (3)

**Natural Sciences (7 credits)**

A science course with Laboratory or AG 110 or AG 140 (4)

A non-lab science or AG 101 (3)

Social Sciences (3 credits)

SS 150 History of Micronesia (3)

**Computer Applications (3 credits)**

CA 100 Computer Literacy (3)

**Exercise Sports Science (1 credit)**

**Exercise Sports Science course (1)**

**Humanities (3 credits)**

Any course in art, music, history, literature, philosophy,  
or language (3)

**iii. CIS Major Courses**

**Information Systems (19 credits)**

IS 201 Computer Information Systems (3)

IS 220 Computer Programming (3)

IS 230 Database Design (3)

IS 240 Webpage Design (3)

IS 260 Business Information Systems (3)

IS 280 Introduction to Networking-w/lab (4)

**Business (6 credits)**

AC 131 Accounting I (3)

BU 101 Introduction to Business (3)

**Communications (3 credits)**

EN/BU 121 Business Communication (3)

**Mathematics (6 credits)**

MS 101 Algebra and Trigonometry (3)

MS 150 Statistics (3)

**Electives: Any two of the following courses (6 credits)**

CA 105 Data Analysis Using Spreadsheets (3)

MM 225 Multimedia Design (3)

IS/MM 245 Desktop Publishing (3)

MM 240 Computer Animation (3)  
IS 270 Geographic Information Systems (3)

**i. PROGRAM COURSES AND DESCRIPTION**

**IS 201 Computer Information Systems (3)**

Prerequisite: CA 100

Provides fundamental understanding of computers and information systems. Exposes students to tools and technologies used in the computer-based information systems, including hardware and software resources, business systems, design methods, programming languages, networking and communications, and emerging trends in computer technology.

**IS 220 Computer Programming (3)**

Prerequisite: IS 201

Provides an introduction to computer science programming using Microsoft Visual Basic. NET. Course aims at presenting programming concepts, and then a series of hands-on, step-by-step activities to reinforce learning through practical applications in the business environment.

**IS 230 Database Design (3)**

Prerequisite: IS 201

Covers the fundamentals of database and the process of database design, including data modeling, the entity relationship, and relational models. Involves hands-on experience for students in setting up a data dictionary, designing screens and practice in the use of structured query language (SQL) programming.

**IS 240 Webpage Design (3)**

Prerequisite: CA100

An introduction to the "language" of web pages (Hypertext Markup Language) and to a more advanced scripting language, JavaScript. Students learn the HTML tags necessary to develop a high-quality web page and integrate JavaScript code with the HTML to enhance the capabilities of their web pages. A final project gives students a chance to develop their own pages incorporating all they have learned into a hands-on, web-ready web site.

**IS 260 Business Information Systems (3)**

Prerequisite: BU101, IS 220, or concurrently with permission of the instructor.

Introduces students to the management of computer-based information resources in the context of business organizations. Issues covered include management strategies and policies for improving organizational productivity; acquisition management and evaluation of management information services; office automation; end-user computing; computer use in international environments; social and organizational perspectives of information management and ethical implications.

**IS 270 Geographic Information Systems (3)**

Prerequisite: IS 201

Provides an introduction to Geographic Information Systems (GIS) and its application in several disciplines such as physical planning, mapping, land and utilities management, using available GIS Software.

**IS 280 Introduction to Networking-w/lab (4)**

Prerequisite: IS 201

Introduces students to the principles, terminology, and concepts of computer networking from a variety of perspectives. Covering a variety of topics, students acquire a strong foundation of computer networking principles and practices. Regular lectures are supplemented by a one credit laboratory for demonstration by the instructor and hands-on work by the students.

**IS/MM 245 Desktop Publishing (3)**

Desktop Publishing is designed to improve the student's visual communication skills, increase spatial and aesthetic perception and discrimination, expand computer skills and technical vocabulary, and develop effective visual communication strategies. The course will focus on projects such as newsletters, annual reports, brochures, and promotional materials as well as on getting the student to utilize other software capabilities. This is a studio arts course; at least half of the contact hours will be in the studio lab.

**AC 131 Accounting I (3)**

Prerequisite: ESL 089, MS 098

Establishes a foundation for the understanding of the accounting environment, basic accounting concepts, and the accounting model. Each step of the accounting cycle is covered in detail. Also covered are the sales, purchases, cash receipts and cash payments journals and their accompanying accounts receivable and accounts payable subsidiary ledgers; cash; and preparation of financial statements.

**BU 101 Introduction to Business (3)**

Prerequisite: ESL 089

Establishes a foundation for the understanding of contemporary business and its environment. The course covers the various functional areas of business: management and organization, human resources, marketing, financing, accounting, and information systems. Business ethics and social responsibility, the global business environment and basic FSM business laws/regulations are also covered.

**EN/BU 121 Business Communication (3)**

Prerequisites: BU 101, CA 100

This course focuses on intercultural writing and speaking skills appropriate for business. Business writing and oral skills are emphasized.

**MS 101 Algebra and Trigonometry (3)**

Prerequisite: C or better in MS 100

Introduces the students to quadratic, log, exponential, and trigonometric functions.

**MS 150 Statistics (3)**

Prerequisite: MS 100

Introduces the basic ideas of data presentation, descriptive statistics, basic probability, and inferential statistics. Incorporates the use of a computer spreadsheet package, MS Excel, for both data analysis and presentation.

Studies basic concepts using applications from business, social science, health science, and the natural sciences.

**CA 105 Data Analysis Using Spreadsheets (3)**

Prerequisite: CA 100

Hinges on the use of a spreadsheet application to create and manipulate data in worksheets and workbooks in order to derive solutions to typical business scenarios. Students use various MS Excel tools and functions (including statistical functions, data validation, protection, pivot tables, filtering, scenarios, etc.) at an intermediate-to-advanced user level.

**MM 225 Multimedia Design (3)**

Prerequisites: CA 100 or permission of instructor

This course presents essential multimedia design principles, professional vocabulary and current technology. Students will learn to design an interactive multimedia educational presentation. Students will also acquire the foundation of knowledge and skills necessary to continue study toward becoming a professional multimedia designer.

**MM 240 Computer Animation (3)**

Prerequisites: Any Art class and CA 100 or permission of instructor

Computer animation is designed to improve students' visual communication skills, increase temporal, spatial and esthetic perception and discrimination, expand computer skills and technical vocabulary, and employ effective visual communication strategies for use across academic disciplines. This is a studio arts course; at least half of the contact hours will be in the studio lab.

**II. PROGRAM FACULTY**

**a. Full-time Faculty as of Spring 2011**

- 1. JOSEPH FELIX, JR**, *Associate Professor*  
**Bachelor of Science in Computer Science**  
(Park College, Missouri)  
**Master of Science in Information Systems**  
(National University, California)
- 2. MARLENE MANGONON**, *Instructor*  
**Bachelor in Computer Data Processing Management**  
(Polytechnic University of the Philippines, Philippines)  
**Master in Business Administration**  
(Virgen Milagrosa University, Philippines)
- 3. EDPER CASTRO**, *Instructor*  
**Bachelor of Science in Information and Computer Science**  
(Cebu Institute of Technology, Philippines)  
**Diploma in Computer Science**  
(Open University, University of the Philippines, Philippines)  
**Masters in Information Systems**  
(Open University, University of the Philippines, Philippines)

4. **RAFAEL PULMANO**, *Assistant Professor*  
**Certified Public Accountant**  
(Philippine Board of Accountancy, since 1982)  
**Bachelor of Science in Commerce**, Major in Accounting  
(Saint Michael's College of Laguna, Philippines)  
**Master in Business Administration**  
(National College of Business and Arts, Philippines)
  
5. **MARIAN MEDALLA**, *Instructor*  
**Certified Public Accountant**  
(Philippine Board of Accountancy, since 2001)  
**Bachelor of Science in Accountancy**  
(Mindanao State University, Philippines)  
**Master in Business Administration**  
(Notre Dame of Dadiangas College, Philippines)
  
6. **RUCI YAUVOLI**, *Instructor*  
**Bachelor of Arts in Business**  
(University of the South Pacific)  
**Diploma in Credit Analysis**  
(New York University)  
**Master in Business Administration**  
(University of the South Pacific)

**b. Part-time Faculty as of Spring 2011**

1. **GEORGE MANGONON**, *Instructor*  
**Bachelor of Science in Mathematics**  
(University of the Philippines, Philippines)  
**Master in Business Administration**  
(Virgen Milagrosa University, Philippines)

**III. ASSESSMENT PLAN**



COMPUTER INFORMATION SYSTEMS(CIS) DEGREE PROGRAM  
 FIVE-YEAR ASSESSEMENT PLAN  
 (AY2007- AY2012)

ACADEMIC YEAR	PROGRAM LEARNING OUTCOMES														
	PL01			PL02			PL03			PL04			PL05		
	SEMESTERS														
	fall	spring	summer	fall	spring	summer	fall	spring	summer	fall	spring	summer	fall	spring	summer
2007-2008		IS280	BU101		IS280	BU101		IS280			S280			IS280	
	IS260			IS260		IS240	IS260	CA105	IS240	IS260	CA105	IS240	IS260	CA105	IS240
	IS201	AC131		IS201			IS201	AC131		IS201			IS201		
		IS260			IS260			IS260			IS260			IS260	
2008-2009	IS280	IS280		IS280	IS280		IS280	IS280		IS280	IS280		IS280	IS280	

ACADEMIC YEAR	PROGRAM LEARNING OUTCOMES														
	PL01			PL02			PL03			PL04			PL05		
	SEMESTERS														
	fall	spring	summer	fall	spring	summer	fall	spring	summer	fall	spring	summer	fall	spring	summer
	BU101			BU101			IS230	IS230		IS230	IS230		IS230	IS230	
							IS220	IS230		IS220	IS230		IS220	IS230	
					IS240		CA105	IS240		CA105	IS240		CA105	IS240	
	AC131	IS260			IS260		AC131	IS260			IS260			IS260	
2009-2010		IS280			IS280			IS280			IS280			IS280	



## Academic Programs

### Assessment Plan

COMPUTER INFORMATION  
SYSTEMS (CIS)

AY 2007 FALL- AY2012 SPRING

#### Academic Program

Formative Assessment

Summative Assessment

#### Assessment Period Covered

August 8, 2008

#### Date Submitted

#### Institutional Mission/Strategic Goals

**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.

#### Strategic Goals

1. Promote learning and teaching for knowledge, skills creativity, intellect and the abilities to seek and analyze information and to communicate effectively;
2. Foster effective communications;
3. Build partnering and services network for community, workforce and economic development.
4. Provide for continuous improvement of programs, services and college environment

#### Business Division Mission and Goals

**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.

**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.

**CIS Program Mission and Goals**

**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.

**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.

<b>CIS Program Learning Outcomes:</b>
<b>PL 1:</b> Demonstrate an in-depth understanding of technical concepts and ethical issues pertaining to information systems
<b>PL 2:</b> Demonstrate theoretical knowledge and practical skills in the management and strategic use of information systems and technology.
<b>PL 3</b> 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.
<b>PL 4:</b> Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking

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

<b>Evaluation questions</b>	<b>Data sources</b>	<b>Sampling</b>	<b>Analysis</b>
<b>1.</b> Can the students recognize, define and explain technical concepts and ethical issues pertaining to information systems?	Test Questions and Results	IS201 class	Percentage, Mean, and Standard Deviation
<b>2.</b> Can the students recognize, define and explain theoretical knowledge and demonstrate practical skills in the management and strategic use of information and technology?	Test Questions and Results and Projects	BU101, AC131, BU121, IS260 class	Percentage, Mean, and Standard Deviation
<b>3.</b> Can the students demonstrate practical skills in the use of basic software applications?	Hands-on Exercises and Exams, projects	CA100, CA105, ELECTIVE class	Percentage, Mean, and Standard Deviation
<b>4.</b> Can the students demonstrate skills in database design and management, web engineering, programming and networking?	Hands-on Exercises and Exams, and Software development projects	IS220, IS230, IS240, IS280	Percentage, Mean, and Standard Deviation
<b>5.</b> How many students were able to pass the next higher level CIS courses?	OAR/IRPO	All CIS Courses Classes	Percentage
<b>6.</b> How many students were able to graduate in the CIS program?	OAR/IRPO	Yearly graduates of the program	Percentage

<b>Evaluation questions</b>	<b>Data sources</b>	<b>Sampling</b>	<b>Analysis</b>
<b>7.</b> What job placements did the CIS graduates land to?	Employers, Alumni	Survey/Interview	Frequency
<b>8.</b> What workplace application skills were able to be satisfied by the graduates of the CIS program?	Employers	Survey/Interview	Frequency
<b>9.</b> How many students were able to pursue higher degree programs in this field in other educational institutions starting from the pioneer graduates?	OAR Alumni Other Educ'l. Institutions	Yearly graduates of the program	Percentage

### Timeline

<b>Activity</b>	<b>Who is Responsible?</b>	<b>Date</b>
<b>ASSESS ON EVALUATION QUESTION 1</b> Students will be given an assignments, chapter tests, class activities.	CIS Instructor handling the course	Will be given at the end of each lesson discussion
<b>ASSESS ON EVALUATION QUESTION 2</b> Students will be given an assignments, chapter tests, hands-on exercises.	CIS Instructor handling the course	Will be given at the end of each lesson discussion
<b>ASSESS ON EVALUATION QUESTION 3</b> Students will be given an assignments, chapter tests, hands-on exercises, mini and major project development.	CIS Instructor handling the course	Will be given at the end of each lesson discussion
<b>ASSESS ON EVALUATION QUESTION 4</b> Students will be given an assignments,	CIS Instructor handling the course	Will be given at the end of each lesson discussion



chapter tests, hands-on exercises, mini and major project development.		
<b>GATHER/COLLECT FOR QUESTION 5</b> Obtain data from Office of the Admissions and Records(OAR)/IRPO	CIS Program Coordinator/Division Chair/VPIA Office	During Program Assessment Period
<b>GATHER/COLLECT FOR QUESTION 6</b> Obtain data from Office of the Admissions and Records(OAR)/IRPO	CIS Program Coordinator/Division Chair/VPIA Office	During Program Assessment Period
<b>GATHER/COLLECT FOR QUESTION 7</b> Conduct Survey Interview from Employers and Alumni	CIS Program Coordinator/Division Chair/VPIA Office	During Program Assessment Period
<b>GATHER/COLLECT FOR QUESTION 8</b> Conduct Survey Interview from Companies	CIS Program Coordinator/Division Chair/VPIA Office	During Program Assessment Period
<b>GATHER/COLLECT FOR QUESTION 9</b> Obtain data from Office of the Admissions and Records(OAR) and Alumni	CIS Program Coordinator/Division Chair/VPIA Office	During Program Assessment Period

#### IV. PROGRAM OUTCOME ANALYSIS

##### a. Health Indicators

##### i. Program Enrollment

<b>Year</b>	<b>Spring</b>	<b>Summer</b>	<b>Fall</b>	<b>Total</b>
2008	No Data	No Data	164	164 (Incomplete)
2009	No Data	No Data	183	183 (Incomplete)
2010	169	165	191	525

##### Previous Enrollment Data on the last Program Review

<b>Year</b>	<b>Spring</b>	<b>Summer</b>	<b>Fall</b>	<b>Total</b>
2005	142	74	165	381
2006	152	68	150	370
2007	125	60	136	321

##### ii. Program Graduate Count

<b>Year</b>	<b>Spring</b>	<b>Summer</b>	<b>Fall</b>	<b>Total</b>
2008	11	3	6	20
2009	12	2	12	26
2010	16	6	10	32

### iii. Completion Rate

#### Summer 2009

<b>Course</b>	<b>Number of Students</b>	<b>Succeeded Count or students who got A,B or C.</b>	<b>Succeeded Percentage (%)</b>
IS230	12	9	75%
IS240	28	20	71.42%

#### Fall 2009

<b>Course</b>	<b>Number of Students</b>	<b>Succeeded Count or students who got A,B or C.</b>	<b>Succeeded Percentage (%)</b>
IS230	25	19	76%
IS240	25	14	56%
IS260	24	20	83.33%
IS280	21	18	85.71%

#### Spring 2010

<b>Course</b>	<b>Number of Students</b>	<b>Succeeded Count or students who got A,B or C.</b>	<b>Succeeded Percentage (%)</b>
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IS230	23	9	39.1%
IS240	20	12	60%
IS260	23	20	86.96%
IS280	19	18	94.73%

### Summer 2010

Course	Number of Students	Succeeded Count or students who got A,B or C.	Succeeded Percentage (%)
IS230	24	17	70.83%
IS240	23	18	78.26%

### Fall 2010

Course	Number of Students	Succeeded Count or students who got A,B or C.	Succeeded Percentage (%)
IS230	22	13	59.1%
IS240	19	6	31.58%
IS260	23	21	91.30%
IS280	20	17	85%

**Spring 2011**

<b>Course</b>	<b>Number of Students</b>	<b>Succeeded Count or students who got A,B or C.</b>	<b>Succeeded Percentage (%)</b>
IS230	24	21	87.5%
IS240	21	15	71.43%
IS260	23	21	91.30%
IS280	23	21	91.30%

**Summer 2011**

<b>Course</b>	<b>Number of Students</b>	<b>Succeeded Count or students who got A,B or C.</b>	<b>Succeeded Percentage (%)</b>
IS230	24	17	70.83%
IS240	25	22	88%

### Succeeded Percentage Summary

Course	2009				2010				2011		
	Spring	Summer	Fall	AVE(%)	Spring	Summer	Fall	AVE(%)	Spring	Summer	AVE (%)
IS230		75%	76%	75.5%	39.1%	70.83%	59.1%	56.34%	87.5%	70.83%	79.17%
IS240		71.42%	56%	63.71%	60%	78.26%	56.61%	64.96%	71.43%	88%	79.72%
IS260			83.33%		86.96%		91.30%	89.13%	91.30%		
IS280			85.71%		94.73%		85%	89.87%	91.30%		

### b. Course Level Assessments

#### IS 230 – Database Design / Fall Semester 2010 / 24

SLO#	Program SLO#	I, D, M	Reflection/Comment
<p><b>SLO#1</b> Describe the types of databases, common database models, and a brief history of relational database.</p> <p><b>SLO#4</b> Discuss database related terminology in</p>	<p><b>SLO #4</b> Demonstrate a solid foundation skills in database design and management, web engineering, programming, and</p>	I, D	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Quiz</i></p> <p>9 of 24 students, or 37.5%, obtained a grade of C or higher.</p> <p>A = 1, B = 2, C = 6, D = 5, F = 10(3)</p>

<p>relational database design.</p> <p><b>SLO#5</b> Identify the components of data structures in database design</p>	<p>networking;</p>		<p><b>Note</b> : The 'F' grade 10(3) means out of 10 students who got 'F', 3 did not take the Quiz.</p> <p>Assessment Type : <i>Hands-On Exercises</i></p> <p>19 of 24 students, or 79.16%, obtained a grade of C or higher.</p> <p>A = 2, B = 9, C = 8, D = 1, F = 4</p> <p><b>Note</b> : 2 out of 4 students with an 'F' grade did not perform at least 1 of the 2 exercises.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Hands-On Exercises</p> <p>Summative: End-of-unit Quiz</p> <p><i>Comments on Student Learning :</i></p>
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			<ul style="list-style-type: none"> <li>- Two types of assessments were used, namely, a Quiz and Hands-On Exercises simply because in this subject in order to learn more on the topic at hand participation through exercises would demonstrate more if learning takes place or not rather than simply through Quizzes although that would obviously help.</li> <li>- Although many students got an 'F' for the Quiz but this is significantly lower than the last Semester wherein 14 failed compared to 10 this time. On the number of students who got C or better, in comparison to the last semester this semester has an increase of 11.5% students who got C or better or an additional of 3 more students who got C or better.</li> </ul>
<p><b>SLO#6</b> Discuss the methods of establishing table relationships in the database.</p> <p><b>SLO#8</b> Explain the importance of data integrity in database design</p>	<p><b>SLO #4</b> Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	I, D	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Exam</i></p> <p>10 of 24 students, or 41.67%, obtained a grade of C or higher.</p> <p>A = 1, B = 0, C = 9, D = 6, F = 8</p> <p>Assessment Type : <i>Hands-On Exercises</i></p> <p>17 of 24 students, or 70.83%, obtained a grade of C or higher.</p> <p>A = 9, B = 6, C = 2, D = 2, F = 5</p> <p><b>Note</b> : All students who got an 'F' at least miss one (1) exercise out of four (4) exercises.</p>



			<p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Hands-On Exercises</p> <p>Summative: Midterm Exam</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Instead of End-of-Unit Quiz, students' assessment was done through a Midterm Exam.</li> <li>- The number of students who got C or better, in comparison to the last semester this semester improves from 30% to 41.67% or an increase from 7 for the last semester to 10 this semester.</li> </ul>
<p><b>SLO#10</b> Explain the anatomy of field specification in table design.</p> <p><b>SLO#12</b> Explain the anatomy of table views in database design.</p>	<p><b>SLO #4</b> Demonstrate a solid foundation skills in database design and management, web</p>	<p>I,D</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Exam</i></p> <p>6 of 24 students, or 25%, obtained a grade of C or higher.</p>

	<p>engineering, programming, and networking;</p>		<p>A = 1, B = 3, C = 2, D = 5, F = 13</p> <p>Assessment Type : <i>Hands-On Exercises</i></p> <p>18 of 24 students, or 75%, obtained a grade of C or higher.</p> <p>A = 10, B = 5, C = 3, D = 2, F = 4</p> <p><b>Note</b> : The students with an 'F' grade which are ten (10) of them, 9 out of 10 did not make 3 out of 6 remaining exercises after midterm.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Instead of End-of-Unit Quiz, students' assessment was done through a Final Exam.</li> </ul>
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**Additional observations:** Generally speaking there is a mark improvement on the number of passers on Quizzes, Exercises and Exams except for the Finals exam with one student less passer compared last semester.

*Special comments:*

**Explanations on Course Grading :**

Final Grades were computed as follows:

Hands-On Exercises	-	50%
Quizzes	-	10%
Midterm Exam	-	20%
Final Exam	-	20%
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TOTAL		100%

**Grade Summary :**

**A = 1, B = 5, C = 6, D = 6, F = 6**

**Note :** 12 out of 24 or 50% got C or higher

**Recommendations:** A new textbook that would focus more on RDBMS (Relational Database Management System) practical usage rather than the science of Database Design itself which is more suited for a 4-year course rather than for a 2-year course in a Community College.

IS 240 – Internet and Web-based Information Systems / Fall Semester 2010 / 25

SLO#	Program SLO#	I, D, M	Reflection/Comment
<p><b>SLO#1</b> Describe the basics of the Internet – how it came about, its capabilities, and how information is distributed across the information superhighway.</p> <p><b>SLO#2</b> Demonstrate an understanding of the capabilities and structure of HTML – the backbone of the World Wide Web.</p>	<p><b>SLO #4</b></p> <p>Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	<p>I</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p> <p>15 of 25 students, or 60%, obtained a grade of C or higher.</p> <p>A = 0, B = 6, C = 9, D = 3, F = 7(2)</p> <p><b>Note</b> : The 'F' grade 7(2) means 2 out of 7 failed to submit their exercise.</p> <p>Assessment Type : <i>Quiz</i></p> <p>7 of 25 students, or 28%, obtained a grade of C or higher.</p> <p>A = 1, B = 2, C = 4, D = 17, F = 11(2)</p> <p><b>Note</b> : The 'F' grade 11(2) means 2 out of 11 did not took the Quiz.</p>

			<p><i>Level at which students were successful</i></p> <p>Introduction (I)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Hands-On Exercises</p> <p>Summative: End-of-unit Quiz</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Two types of assessments were used, namely, a Quiz and Hands-On Exercises simply because in this subject in order to learn more on the topic at hand participation through exercises would demonstrate more if learning takes place or not rather than simply through Quizzes although this is in no way downgrade the importance of Quizzes in assessing learning.</li> </ul>
<p><b>SLO#3</b> Create a web page from scratch, using only HTML tags, including the ability to adjust line spacing, background color, text colors, and other important attributes.</p>	<p><b>SLO #2</b></p> <p>Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	<p>I,D</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p> <p>17 of 25 students, or 68%, obtained a grade of C or higher.</p> <p>A = 15, B = 0, C = 2, D = 2, F = 6(2)</p> <p><b>Note</b> : All the student that has an 'F' grade, 2 out of 6 failed to submit</p>

<p><b>SLO#4</b> Use advanced HTML tags to organize data into tables, insert images, hyperlink pages, and create electronic forms.</p>			<p>their exercise.</p> <p>Assessment Type : <i>Exam</i></p> <p>14 of 25 students, or 56%, obtained a grade of C or higher.</p> <p>A = 1, B = 7, C = 6, D = 3, F = 8(1)</p> <p><b>Note</b> : The 'F' grade 8(1) means 1 out of 8 students did not take the exam.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Exercises</p> <p>Summative: Midterm Exam</p>
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			<p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Instead of End-of-Unit Quiz, students' assessment was done through a Midterm Exam.</li> </ul>
<p><b>SLO#9</b> Develop a high-quality, interactive web page utilizing the newest versions of HTML, CSS and JavaScript.</p>	<p><b>SLO #2</b> Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	<p>I,D,M</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p> <p>12 of 25 students, or 48%, obtained a grade of C or higher.</p> <p>A = 9, B = 0, C = 3, D = 1, F = 12(12)</p> <p><b>Note :</b> The 'F' grade 12(12) means 12 out of 12 did not do at least 1 out of 3 exercises and/or has withdrawn from the class.</p> <p>Assessment Type : <i>Project</i></p>

			<p>13 of 25 students, or 52%, obtained a grade of C or higher.</p> <p>A = 10, B = 3, C = 0, D = 0, F = 12(10)</p> <p><b>Note</b> : The 'F' grade 12(10) means 10 out of 12 did not pass their final project and/or has withdrawn already from the class.</p> <p>Assessment Type : <i>Exam</i></p> <p>8 of 25 students, or 32%, obtained a grade of C or higher.</p> <p>A = 2, B = 2, C = 4, D = 0, F = 18(5)</p> <p><b>Note</b> : The 'F' grade 18(5) means 5 out of 18 did not took the exam or has already withdrawn from the class.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p>
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			<p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Despite the low percentage of passers on the final exam, it is still relatively higher compared to the last semester.</li> </ul>
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**Additional observations:** The new textbook as per recommendation last two semesters ago did not arrive this semester and even up to this point with all the follow-ups that I made to the bookstore manager. The students therefore have to resort to the power point slides that I gave them and the exercises. Although even with those materials the students could easily pass if they are diligent enough in doing their part.

*Special comments:*

**Explanations on Course Grading :**

Final Grades were computed as follows:

Hands-On Exercises/Project	-	60%
Quizzes	-	10%
Midterm Exam	-	15%
Final Exam	-	15%

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TOTAL

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100%

**Grade Summary :**

**A = 1, B = 6, C = 2, D = 4, F = 12(10)**

**Note :** 9 out of 25 or 36% got C or higher. And 10 out of 12 who got an 'F' already either have withdrawn from the class and/or did not pass the final project.

**Recommendation Comment :** Adjust the number of exercises or minimize the number of exercises only to important ones so as to accommodate for the Final Project.

**IS 260 – Business Information System / Fall Semester 2010 / 25**

SLO#	Program SLO#	I, D, M	Reflection/Comment
<i>SLO#1</i> Understand how computer hardware	<i>SLO #2</i>	I	<i>Number of students successful on this SLO</i>

<p>has evolved to its present level of sophistication</p> <p><b>SLO#2</b> Know what innovations to expect in information technology</p> <p><b>SLO#21</b> Understand the fundamentals of decision making and problem solving</p>	<p>Demonstrate theoretical knowledge and practical skills in the management and strategic use of information systems and technology.</p>		<p>Assessment Type : <i>Hands-On Exercise</i></p> <p>22 of 25 students, or 88%, obtained a grade of C or higher.</p> <p>A = 11, B = 9, C = 2, D = 0, F = 3(2)</p> <p><b>Note</b> : The 'F' grade 3(2) means 2 out of 3 students who got an F failed to submit his/her exercise or has withdrawn from the class.</p> <p>Assessment Type : <i>Quiz</i></p> <p>7 of 25 students, or 28%, obtained a grade of C or higher.</p> <p>A = 0, B = 2, C = 5, D = 9, F = 9(1)</p> <p><b>Note:</b> The 'F' grade 9(1) means 1 out of 9 students has already withdrawn from the class.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I)</p>
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			<p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Hands-On Exercises</p> <p>Summative: End-of-unit Quiz</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- This class is a purely lecture class and as I observed in this College many of the students could not stand for even 30 minutes for a faculty to stand in front and discuss. So to make it more interesting and more interactive for students, I included hands-on exercises, a group project wherein they would create a mini-information system based on the assigned business problem that is already defined for them.</li> </ul>
<p><b>SLO#7</b> Learn the organizational context for systems development and use is changing from a physical to a virtual structure</p>	<p><b>SLO #2</b></p> <p>Demonstrate theoretical knowledge and practical skills in the management and strategic use of information systems and</p>	<p>I, D</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-on Exercise</i></p> <p>22 of 25 students, or 88%, obtained a grade of C or higher.</p> <p>A = 6, B = 11, C = 5, D = 0, F = 3(3)</p>

<p><b>SLO#13</b> Recognize the systems approach in solving systems problems of all kinds</p> <p><b>SLO#14</b> Understand how systems development projects are managed in top-down fashion</p>	<p>technology.</p>		<p><b>Note</b> : The 'F' grade 3(3) means 3 out of 3 students who got an F did not do at least one exercise and/or has withdrawn from the class.</p> <p>Assessment Type : <i>Exam</i></p> <p>11 of 25 students, or 44%, obtained a grade of C or higher.</p> <p>A = 4, B = 5, C = 2, D = 6, F = 8(1)</p> <p><b>Note</b> : The 'F' grade 8(1) means 1 out of 8 students who got an F has already withdrawn from the class.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Reporting</p> <p>Summative: Midterm Exam</p>
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			<p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Instead of End-of-Unit Quiz, students' assessment was done through a Midterm Exam.</li> </ul>
<p><b>SLO#4</b> Recognize the importance and advantages of electronic commerce</p> <p><b>SLO#10</b> Distinguish between intranets, extranets, and the internet</p> <p><b>SLO#12</b> Know the advantages and costs of database management systems</p>	<p><b>SLO #5</b> Demonstrate the ability to adapt to latest technologies using their foundation knowledge and skills from CIS.</p>	I,D,M	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Group Project</i></p> <p>24 of 25 students, or 96%, obtained a grade of C or higher.</p> <p>A = 17, B = 6, C = 1, D = 0, F = 1(1)</p> <p><b>Note :</b> The 'F' grade 1(1) means one of the student has already withdrawn from the class and therefore has no project to begin with.</p> <p>Assessment Type : <i>Exam</i></p> <p>13 of 25 students, or 52%, obtained a grade of C or higher.</p> <p>A = 0, B = 4, C = 9, D = 8, F = 5(1)</p>

			<p><b>Note</b> : The 'F' grade 5(1) means 1 out of 5 students has already withdrawn from the class and therefore was not able to take the final exam.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"><li>- Instead of End-of-Unit Quiz, students' assessment was done through an Exercise, Final Exam and an incremental Group Final Project.</li></ul>
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**Additional observations:** The new textbook did not arrive as expected last Semester but hopefully come Spring 2011 the bookstore will be able to provide us with the new textbook.

*Special comments:*

**Explanations on Course Grading :**

Final Grades were computed as follows:

Hands-On Exercises/Reporting/Group Project	-	50%
Quizzes	-	10%
Midterm Exam	-	20%
Final Exam	-	20%
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TOTAL		100%

**Grade Summary :**

**A = 4, B = 10, C = 9, D = 1, F = 1**

**Note :** 23 out of 25 or 92% got C or higher and the one who got an 'F' grade has since withdrawn before the deadline of withdrawal of courses.

**Recommendations:** A Divisional server that would allow students do their project that connects to a mySQL Database that would not touch the Database in the main server at COM National Campus.



SLO#	Program SLO#	I, D, M	Reflection/Comment
<p><b>SLO#1</b> Discuss the history of networking.</p> <p><b>SLO#2</b> Define networking terminologies.</p> <p><b>SLO#3</b> Identify networking theory and established standards.</p>	<p><b>SLO #4</b></p> <p>Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	<p>I</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p> <p>15 of 19 students, or 78.9%, obtained a grade of C or higher.</p> <p>A = 6, B = 9, C = 0, D = 1, F = 3(3)</p> <p><b>Note</b> : The 'F' grade 3(3) means 3 out of 3 students did not performed at least one of their assigned exercise.</p> <p>Assessment Type : <i>Quiz</i></p> <p>9 of 22 students, or 26.3%, obtained a grade of C or higher.</p> <p>A = 0, B = 1, C = 4, D = 3, F = 11(1)</p> <p><b>Note</b> : The 'F' grade 11(1) means all 1 out of 11 did not take the Quiz.</p>

			<p><i>Level at which students were successful</i></p> <p>Introduction (I)</p> <p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Hands-On Exercises</p> <p>Summative: End-of-unit Quiz</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- This class is a purely lecture class and as I observed in this College many of the students could not stand for even 30 minutes for a faculty to stand in front and discuss. So to make it more interesting and more interactive for students, I included hands-on exercises and reporting. The hands-on exercises are all paper-based or research-based rather than actual hands-on hardware exercise which is the province of the Lab class under Mrs Mangonon.</li> </ul>
<p><b>SLO#4</b> Explain the implementation of local-area and wide-area networking.</p>	<p><b>SLO #2</b></p> <p>Demonstrate a solid foundation skills in database design and</p>	<p>I,D</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p>

<p><b>SLO#5</b> Identify network protocols and how they operate at all layers of the networking models.</p>	<p>management, web engineering, programming, and networking;</p>		<p>12 of 19 students, or 63.15%, obtained a grade of C or higher.</p> <p>A = 5, B = 6, C = 1, D = 2, F = 5(5)</p> <p><b>Note</b> : The 'F' grade 5(5) means 5 out of 5 students missed at least one exercise.</p> <p>Assessment Type : <i>Exam</i></p> <p>6 of 19 students, or 31.6%, obtained a grade of C or higher.</p> <p>A = 2, B = 1, C = 3, D = 6, F = 7(1)</p> <p><b>Note</b> : The 'F' grade 7(1) means 1 out of 7 students did not take the exam.</p> <p><i>Level at which students were successful</i></p> <p>Introduction (I), Demonstrate(D)</p>
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			<p><i>How SLO was assessed.</i></p> <p>Formative: Class Participation, Exercises</p> <p>Summative: Midterm Exam</p> <p><i>Comments on Student Learning :</i></p> <ul style="list-style-type: none"> <li>- Instead of End-of-Unit Quiz, students' assessment was done through a Midterm Exam.</li> </ul>
<p><b>SLO#5</b> Identify network protocols and how they operate at all layers of the networking models.</p> <p><b>SLO#8</b> Identify emerging technologies that are expected to impact the future of networking.</p>	<p><b>SLO #2</b></p> <p>Demonstrate a solid foundation skills in database design and management, web engineering, programming, and networking;</p>	<p>I,D,M</p>	<p><i>Number of students successful on this SLO</i></p> <p>Assessment Type : <i>Hands-On Exercise</i></p> <p>13 of 19 students, or 68.42%, obtained a grade of C or higher.</p> <p>A = 8, B = 5, C = 0, D = 3, F = 3(2)</p> <p><b>Note</b> : The 'F' grade 3(2) means 2 of 3 students has at least missed one</p>

exercise and/or has already withdrawn from the class.

Assessment Type : *Quiz*

6 of 19 students, or 31.6%, obtained a grade of C or higher.

A = 0, B = 3, C = 3, D = 5, F = 8

Assessment Type : *Exam*

2 of 22 students, or 63.16%, obtained a grade of C or higher.

A = 7, B = 4, C = 1, D = 2, F = 5(1)

**Note** : The 'F' grade 5(1) means 1 out of 18 has already withdrawn from the class.

*Level at which students were successful*

Introduction (I), Demonstrate(D)

*Comments on Student Learning :*

- Looking back at the final exam result, I think I have to make a review

			first before doing the final exam, so as to have a higher probability of passers.
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**Additional observations:** The Final exam has tremendously improved compared to the last semester because of the review that I did before the final exam.

*Special comments:*

**Explanations on Course Grading :**

Final Grades were computed as follows:

Hands-On Exercises/Reporting	-	50%
Quizzes	-	10%
Midterm Exam	-	20%
Final Exam	-	20%
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TOTAL		100%

**Grade Summary :**

**A =3, B = 7, C = 7, D = 1, F = 1**

**Note :** 17 out of 19 or 89.47% got C or higher and the lone student who got an 'F' grade has already withdrawn from the class.

**Recommendations:** Probably change textbook to something that has a combination of hardware fundamentals and as well as networking. Many of the students in my last 2 years of teaching in Networking have hard time grasping theoretical concepts in networking specially on not so easy topics.

## **V. DISCUSSION OF FINDINGS**

### **a. Initial Findings using direct assessments through CLAs (Course Level Assessments)**

#### **i. Change of textbook(s) that is/are more appropriate for 2-year Programs**

**1.** Textbook on Networking although a new one still would not fit on learning capability of the students here at the college. Additionally the laboratory part teaches hardware first before networking so normally lecture and hands-on does not parallel together as far as topics are concerned.

- **Recommendations** – 1) A textbook that would focus on hardware and a basic on networking that is more hands-on rather than theoretical. 2) Or a separate hardware class could be offered aside from networking class.

**ii. Change of textbooks and/or course outlines that would allow easier transitions to other higher institutions like University of Hawaii and University of Guam to name just a few.**

1. Textbook on IS230 or Database Design although is doing alright as far as fitting to the learning capability of the students here in the college but actually does not match content-wise on similar courses that are offered on higher institutions elsewhere like UH and UOG for example. The focus on the current textbook is more on the database software (i.e. MS Access) rather than the science of designing database. However, the challenge is to find a textbook that is mix (and balance as well) on having good focus on the essential contents on database design and that would match the learning capability of our students here in our College.
  - **Recommendations** - 1) A new textbook that is a good mix of database design essentials and more tailored fit to our students capability here in COM. If this happens a change of course outline would also be in order. 2) Just stay with the current textbooks but add some Database Design concepts that are not part of the textbook but essential enough for the student's learning (this is currently what I am doing right now).
2. Textbook on IS220 or Computer Science and Programming although a programming textbook (using VB.net) is more suited for higher years or is not normally offered as introductory programming language of choice for many schools including UH, UOG (and other US colleges) and even in the Philippines. UH for example uses C++ and UOG uses Java (although recently someone told me that they are now using C++) as introductory programming language. However, many of our students that are taking CIS when they go abroad to study normally goes to UH.
  - **Recommendation** – 1) A new textbook on C++ (or Java) that fits our own need here.

**b. Initial Findings using indirect assessments through program health indicators**

**i.**



IS230=70.34

IS240=69.46