

Core Curriculum Overview

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Preface

The ***Undergraduate Core Curriculum Design*** lays the foundation for all of the PMU degree programs in two ways.

- it presents the set of academic competencies that all PMU graduates are to achieve.
- it describes and presents the syllabi for a set of core academic subjects that are to be included in all degree programs.

Preface (continued)

- It includes courses in **mathematics, natural and physical sciences, and social and behavioral sciences**. Minimum requirements in each of the three areas are established for all degree programs, and additional courses have been designed to be used as needed by the specific academic majors.
- It specifies subjects in **Islamic Studies, Arabic Language, and physical education**, the syllabi of which are to be prepared by PMU faculty.

Purpose

The purpose of the Core Curriculum will be to furnish PMU students with a seamless education, from the Preparation Year Program, to graduation in an academic program major, and then to employment.

Core Curriculum Components

- **University Core Curriculum**
- **The College Core Curriculum**
- **The Assessment Capstone Series**

The College Core Curriculum

It includes prescribed academic subjects which PMU students will be required to master. Each college of the university (Engineering, Information Technology, and Business Administration) will determine the specific College Core courses that will be required of its students. All students, however, will be required to successfully complete courses in each of three College Core fields: **natural and physical sciences, mathematics, and social and behavioral sciences.**

Assessment Capstone Series

It consists of **three courses** required of all PMU students. The first two courses are developmental building blocks designed to increase the success of the third and final capstone course taken during the student's senior year. The Assessment Capstone Series will measure the student's success in achieving the six learning outcomes.

Infusion into Content

- **Expectations** will be articulated by examples and models.
- **Assignments** will involve a set of learning outcomes, and will include reasoning and writing for oral presentations.
- **Critical thinking** with a purpose beyond the classroom will be emphasized while experiences will stress reasoning as a means of **discovery** and a **tool** for increasing understanding in both university courses and the student's personal life.
- **Reasoning** will be recognized as a broad, extra-academic and life-enhancing ability superior to narrow, insulated mechanical skills.

Program Awareness

Those faculty members teaching in the **Preparation Year Program** must be fully aware not only of the **content** of their individual programs, but also of the **objectives** and **expectations** of the Core Curriculum – **especially the University Core Curriculum and the Assessment Capstone Series**. Similarly, faculty teaching in **PMU colleges** must incorporate into the university's academic majors the content and processes taught in the **University Core Curriculum**. This attention to PMU competencies will be vital for students to be evaluated successfully in the final **Assessment Capstone** course given during the senior year.

Goals of the Core Curriculum

University graduates must be able to

- **function in an evolving world** – a rapidly changing, unpredictable, globally interconnected, and technologically driven world.
- **be comfortable in diverse communities** and global societies
- **set goals** and manage complex, difficult pathways to success
- **possess the skills to learn, communicate and solve** problems using sophisticated technologies
- **think critically and independently**
- **have the self-confidence and persistence** to succeed despite difficult challenges
- **reflect critically** on their actions in business and civic life with a commitment to act responsibly and to influence

Role of PMU Core

- Develop lifelong learners with the intellectual and emotional skills and adaptability required to conquer the great changes that they will undoubtedly experience during their adult lives.
- Provide students with the foundation they need to develop intellectual skills, practical skills, and emotional sensitivities.
- Prepare students to think, feel, and act competently in a complex, diverse, and constantly changing world.
- Enable students to have or to locate the information they need to make informed decisions and hold responsible opinions about their lives and the world in which they live.

Status of Students

- They have little experience with inquiry, research, or scholarly discourse.
- They expect they can satisfy academic requirements simply by restating content provided by their teachers.
- They are poorly prepared to assume the responsibilities associated with university-level scholarship.

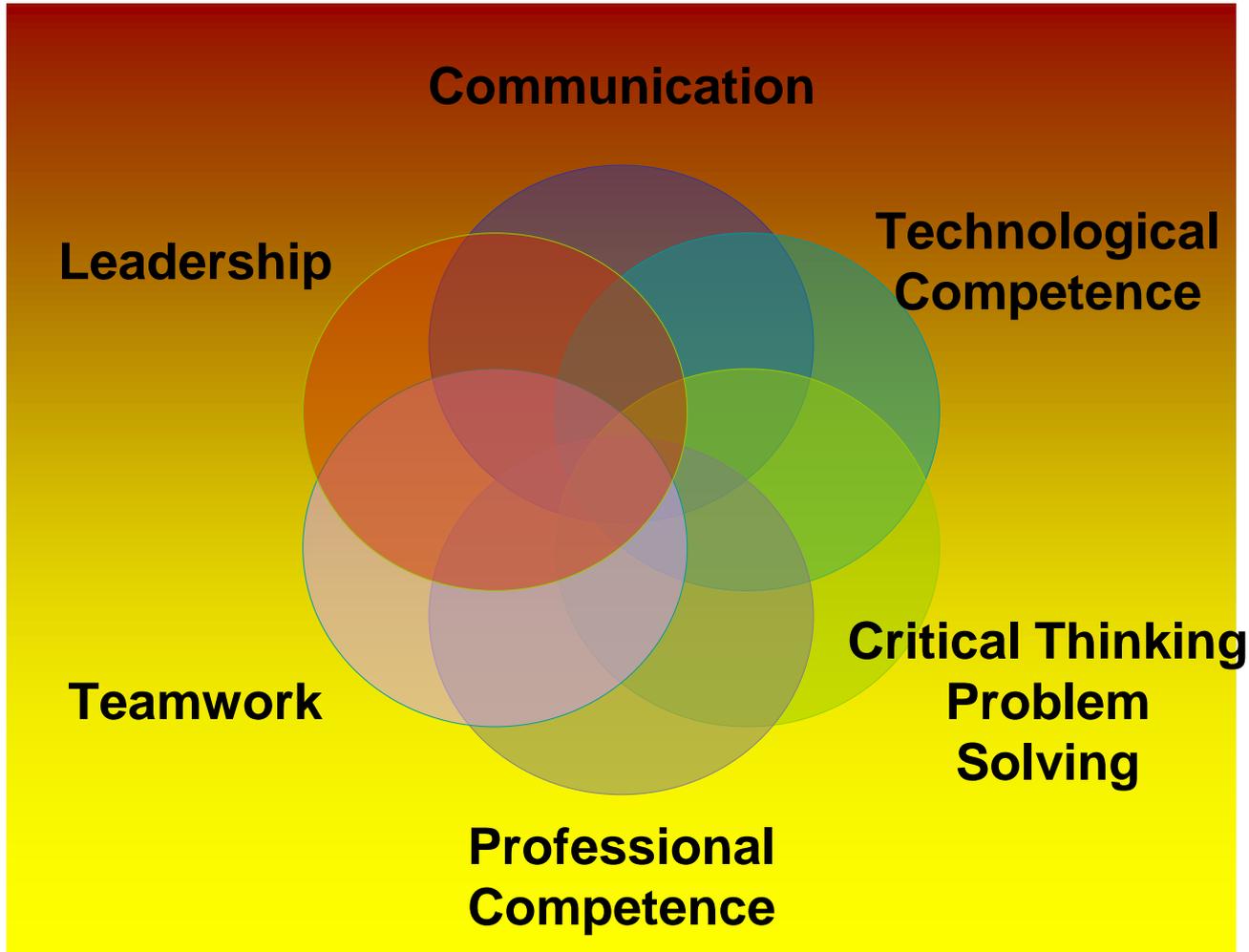
Subject Matter in Perspective

Needless to say, subject content is critically important. Facts, concepts, and theoretical structures of mathematics, science, history, communications, and other areas are the building blocks for learning. However, the assumption that students will be well educated by completing an academic program that requires them merely to absorb content produces educational results opposite of those needed for individual and national advancement in a scientific and technological world.

Challenge for PMU

- Emphasis is now on LEARNING OUTCOMES They concentrate on what students learn rather than what teachers teach. Therefore students must --
- Know not only about their subjects, but must be able to use this knowledge effectively in the workplace.
- Develop intellectual capabilities that will enable them to engage in lifelong learning.
- Integrate and apply knowledge and skills to deal with actual situations and challenges.
- Prepare graduates for professional responsibilities, to take initiative, and assume leadership.
- Be prepared to continue to improve their competencies in the coming years.

Six Learning Outcomes



Outcomes Explained

- **Communication:** the ability to communicate effectively in both English and Arabic in professional and social situations.
- **Technological Competence:** the ability to use modern technologies to acquire information, communicate, solve problems, and produce intended results.
- **Critical Thinking and Problem Solving:** the ability to reason logically and creatively to make informed and responsible decisions and achieve intended goals.

Outcomes (Continued)

- **Professional Competence:** the ability to perform professional responsibilities effectively in both local and international contexts.
- **Teamwork:** the ability to work effectively with others to accomplish tasks and achieve group goals.
- **Leadership:** the ability to be informed, effective, and responsible leaders in family, community, and the Kingdom.

Importance of Learning Abilities

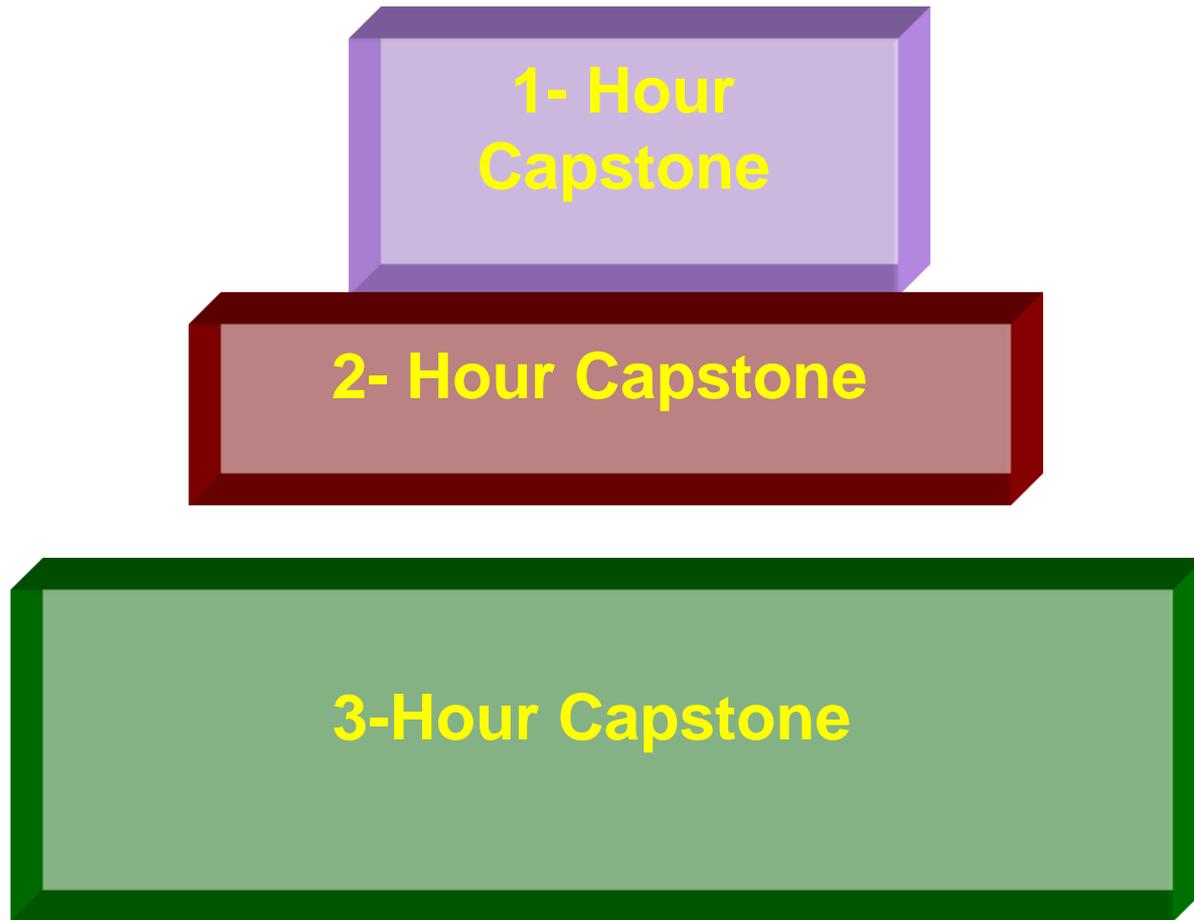
- Faculty cannot transmit high level intellectual abilities solely through lectures and assignments.
- Students must
 - Engage in applied learning
 - Engage in meeting learning expectations
 - Receive feedback to give students the experiences they need to gain new insights, deepen their understanding, and improve ability and skills.

Principles of Learning and Assessment

Learning outcomes and their assessment at the PMU will be guided by the following principles:

- **Utilization** – Learning techniques and assessments will be used frequently.
- **Engagement** – Learning will be an active, not a passive, process.
- **Feedback** – Learning will incorporate a method of evaluation that effectively communicates techniques for improvement to students.
- **Repetition** – Learning will instill PMU values and learning outcomes through regular, repeated functions.

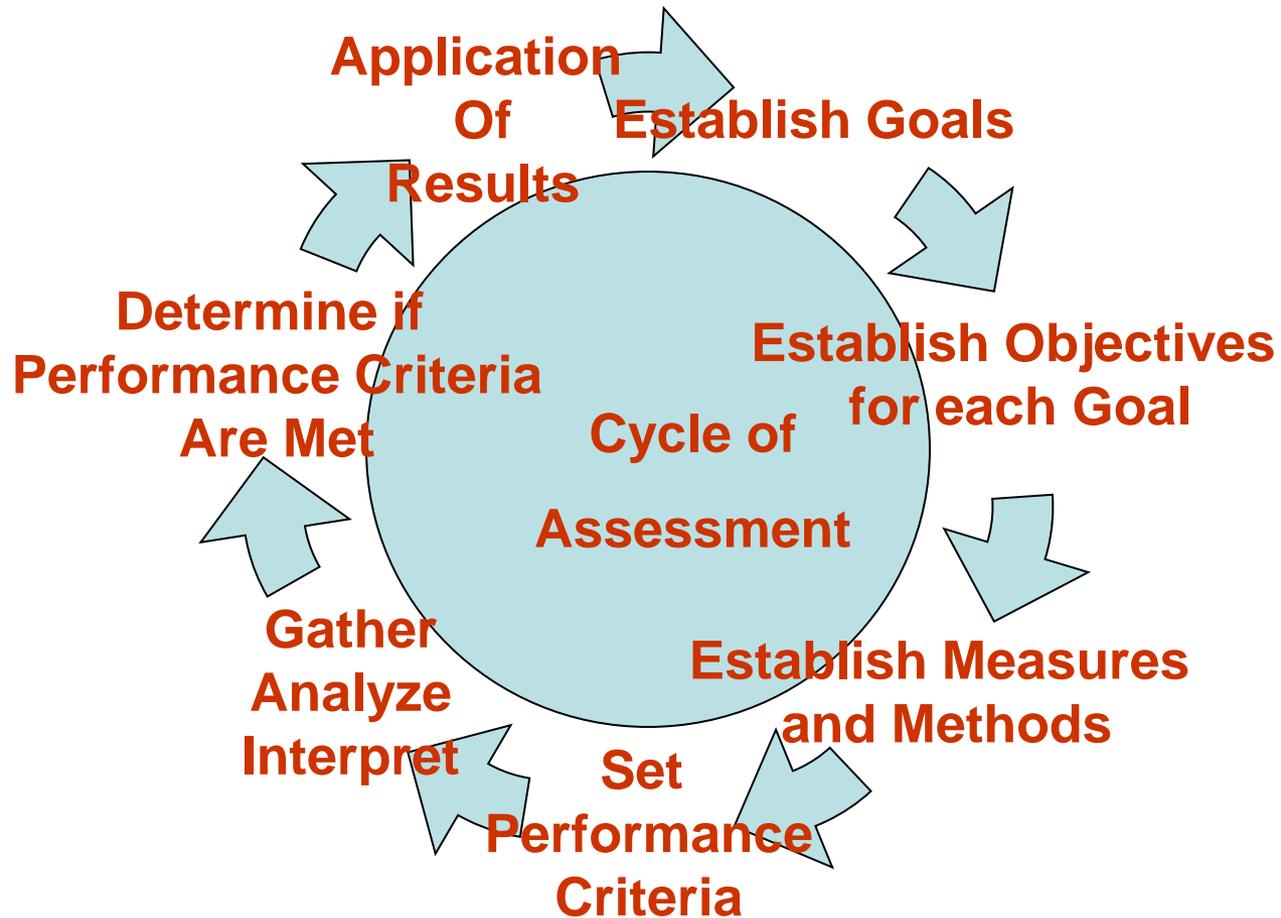
The Assessment Cycle



Responsibility of Each College

- Implement and adjust the assessment criteria.
- Provide direction to ensure the appropriate outcomes and criteria are updated
- Use appropriate measures
- Collect, analyze, and interpret relevant data
- Establish performance criteria
- Report and utilize these results to improve programs

Cycle of Assessment



Learning Outcomes Measurement

- Clarity of Writing
- Persuasive Speaking
- Reasoned Thought
- Quantitative Analysis
- Applied and Professional Research
- Information and Computer Competencies

Curriculum Overview - Math

Key	Title
MATH 1311	Finite Mathematics for Students of Business
MATH 1312	Calculus for Students of Business
MATH 1313	Statistical Methods
MATH 1321	Pre Calculus Mathematics
MATH 1422	Calculus I
MATH 1423	Calculus II
MATH 1324	Calculus III
MATH 2331	Linear Algebra
MATH 2332	Differential Equations

Mathematics Learning Outcomes

Mathematics provides an approach to problem solving through logic and reasoning. It is used to identify, analyze, generalize, and communicate quantitative relationships.

Curriculum Overview -- Natural & Physical Science

Key	Title
BIOL 1411	Introductory Biology
CHEM 1411	Introductory Chemistry
CHEM 1421	Chemistry for Engineers I
CHEM 1422	Chemistry for Engineers II
GEOL 1411	Introductory Physical Geology
PHYS 1411	Introductory Physics
PHYS 1421	Physics for Engineers I
PHYS 1422	Physics for Engineers II

Natural and Physical Sciences

The goal of the natural and physical sciences is to better understand nature.

The natural and physical sciences systematically study natural phenomena.

They do so by observing nature, by collecting and analyzing data, by forming, testing, and revising hypotheses, and by developing theories.

Curriculum Overview -- Social and Behavioral Sciences

Key	Title
ECON 1311	Introduction to Macroeconomics
ECON 1312	Introduction to Microeconomics
GEGR 1311	World Regional Geography
HIST 1311	World Civilizations, 1600 - Present
PSYC 1311	Introduction to Psychology

Social & Behavioral Sciences

The social and behavioral sciences are characterized by their application of both rational and empirical methods to studying the ways in which individuals, organizations, and societies are influenced by the environment as well as by personal and societal goals.

Flexibility – Key to Success

To accommodate the various needs of the university majors, the College Core Curriculum is designed to be flexible. While all students must take at least two courses from each of the three areas, the exact courses required, choices of electives, and requirements beyond the minimum number of credit hours will be specified by the degree programs for each major.

ASSESSMENT CAPSTONE SERIES

- **ASSE 2111:Learning Outcome Assessment I**
- **ASSE 3211:Learning Outcome Assessment II**
- **ASSE 4311:Learning Outcome Assessment III**

Learning Outcome Assessment I

The course will be taken by students during their first semester in the second year of the undergraduate program and will orient them to learning-outcome expectations, the development of a learning portfolio, and the assessment process.

Learning Outcome Assessment

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The course will be taken by students during their first semester in the third year of the undergraduate program and will orient them to learning-outcome expectations, the development of a learning portfolio, and the assessment process. The course builds on ASSE 2111 to prepare students for the final capstone experience – ASSE 4311.

Assessment 1 & 2- Content

- Introduces students to the management of information and information technology.
- Raises questions and problems in order that students can learn to clearly and precisely formulate answers.
- Shows students how to gather and assess relevant information, so that they can meet the university learning objectives.
- Learn how to think within alternative systems of thought and communicate effectively with others to arrive at solutions to complex problems.

Learning Outcome Assessment 3

- The course will be taken by students either first or second semester of the fourth year of the undergraduate program. The semester during which the course is taken will be determined by the student's major field of study.
- It will orient students to learning outcomes expectations, the development of a learning portfolio, and the assessment process.
- The course requires students to meet all the university learning objectives.

Assessment 3 - Content

- Meet the same objectives as Assessments 1 & 2.
- Students also will learn how to think within alternative systems of thought and communicate effectively with others to arrive at solutions to complex problems.