Core Curriculum Revision Basics for Sciences and Math

- Core curriculum revision process ongoing on campus.
- Acting upon state mandate—focus upon skills (Core Objectives) imparted by core curriculum rather than content. (Attachment from CB)
- Sciences responsible for critical thinking, communication, empirical and quantitative reasoning, and teamwork.
- Mathematics responsible for critical thinking, communication, empirical and quantitative reasoning.
- All content areas affected and all are wrestling with making the connection between their content and the skills expected of graduates and embodied in the state Core Objectives.
- Core objectives have been refined locally to produce learning outcomes. (Attachment)

Numbers, Hours, Labs and Courses

- State mandates a move from our current 43 hours to a statewide limit of 42. Not as simple as subtraction.
- 36 hours of that 42 are spelled out, including 6 for life and physical science and 3 for mathematics.
- 6 hours are Component Area Option—i.e. six hours we can determine locally based upon local needs and goals.
- 3 have been assigned to speech communication by University Studies Council.
- The remaining 3 are based upon degree type—bachelor of science or bachelor of arts, for example.
- Students seeking a bachelor of science are required to take either a second math or third science for a total of six or nine hours respectively, regardless of major. (See attached to visualize these divisions/distributions of hours).
- Students not seeking a bachelor of science may simply take six hours of science.

Tricky part

- Non-majors not pursuing a BS are not required to take labs.
- Majors must take labs.
- Several programs that rely upon math/science courses as support courses need their students to take labs—i.e. nursing, agriculture and many education (teacher certification) majors.
• Question is—what is your course’s audience and how will that affect a choice departments need to make, that choice being: does the course keep its lab and if so for which students?

• Next question is—what steps do you need to take to assure non-majors sufficient exposure to assignments meeting the teamwork requirement?
Coordinating Board Mandates Skills effective Fall 2014

**Critical Thinking**-- to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

1.) Students will be able to differentiate between fact and opinion.

2.) Students will be able to form substantive and evidence-driven arguments to propose solutions to problems or explain phenomena.

3.) Students will be able to discern between relevant and irrelevant information, recognize bias in source material, and critically examine a diversity of source material.

4.) Students will be able to recognize their own position as being subjective, follow objectively the arguments of others, and interpret data.

5.) Students will demonstrate the ability to synthesize a cogent body of knowledge from various sources of information, acknowledge the contributions/insights of others, and make independent judgments.

6.) Students will demonstrate creative thinking by linking content and insights from multiple disciplines.

7.) Students will develop and execute effective processes for completing tasks.

8.) Students will be able to analyze, evaluate, or solve problems when given a set of circumstances or data.

**Communications**-- to include effective development, interpretation and expression of ideas through written, oral and visual communication.

1.) In written, oral, and/or visual communication, A&M-Commerce students will communicate in a manner appropriate to audience and occasion, with an evident message and organizational structure.

2.) Student communication will be clear, purposeful, and make appropriate use of evidence, data and technology as applicable.

3.) Student communication will follow conventions of grammar and syntax appropriate to the audience, purpose and message.

**Empirical and Quantitative Skills**-- to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

1.) Students will be able understand and utilize mathematical functions and empirical principles and processes.

2.) Students will explain the role of mathematics across disciplines, including its relationship to the framing and answering of research questions.
3.) Students will be able to interpret, test and demonstrate principles revealed in empirical data.

4.) Students will be able recognize bias and assumptions in arguments to understand the strengths and/or weaknesses of methodologies and/or project/research design.

**Teamwork**-- to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal

1.) Students will be able to work together toward a shared purpose relevant to the course or discipline with a sense of shared responsibility for meeting that purpose.

2.) Students will consider different points of view, work effectively with others despite differences, and understand the juncture between leadership and cooperation.

3.) Students will be able to engage with peers in a way that demonstrates their understanding of relevant course theories and concepts.

**Personal Responsibility**-- to include the ability to connect choices, actions and consequences to ethical decision-making

1.) Students will be able to understand their role in their own education.

2.) Students will understand and practice academic honesty.

3.) Students will examine the ethical dimension of academic inquiry.

4.) Students will be able to recognize the interconnectedness of personal choices, responsibilities, and consequences.

**Social Responsibility**-- to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities

1.) Students will demonstrate awareness of societal and/or civic issues.

2.) Students will describe the relationships of individuals to their communities.

3.) Students will recognize and understand the roles of diversity in society.

4.) Students will demonstrate understanding and empathy toward societal and/or civic issues.