**IDEA objectives – adapted for specific UST course syllabi**

From BIOL 371 – Cell Biology (lab course):

**COURSE OBJECTIVES (LECTURE COMPONENT):**
- Gaining factual knowledge about how cells function
- Learning fundamental principles and theories about how cells function
- Learning to analyze and critically evaluate data, results and arguments

**COURSE OBJECTIVES (LAB COMPONENT):**
- Learning to apply course materials (designing experiments, interpreting data etc.)
- Developing skill in expressing oneself orally or in writing
- Learning how to find and use resources for asking and answering questions and solving problems

From PSYC 422 – History and Systems of Psychology:

**COURSE OBJECTIVES:**
- Gaining factual knowledge about the history of psychology
- Gaining an understanding of basic principles used by scholars studying the history of psychology
- Acquiring skills to carry out historical research
- Learning to analyze and critically evaluate research and arguments made by scholars in the field

From MATH 114 – Calculus II:

**COURSE OBJECTIVES:**
- Gaining factual calculus knowledge
- Learning fundamental principles, generalizations and theories of integral calculus
- Learning to apply calculus (to improve thinking, problem solving, and decision making)

From BIOL471—Evolution

Course Objectives:
- Learn fundamental principles, generalizations and theories of evolutionary biology;
- Learn to apply course material (to improve thinking, problem solving, and decisions)

This course is designed to deepen and broaden your understanding of the processes of evolution with the goal of being able to not only understand these processes but to be able to apply your understanding in new contexts. A particular emphasis will be on how evolutionary thinking is applied to enhance our understanding of other areas of biological inquiry – e.g. cancer, aging,
medicine, climate change. Case studies and problem analyses will be extensively used to help facilitate not only your basic understandings but also your development of this application ability.

- **Learn to analyze and critically evaluate ideas, arguments, and points of view.**
- **Develop specific skills, competencies, and points of view needed by professionals in scientifically-related fields**

Another key area of emphasis in this course will be to develop further your ability to find, read and critically analyze primary scientific literature, in extension of the readings we will do in the text and as part of the writing projects you will undertake in this course. As scientists you will often have to analyze and evaluate the primary and secondary literature and other sources of information. These readings will develop as well your understanding of how current research questions on evolutionary topics are addressed – a real strength of our text.

- **Develop skill in expressing yourself in writing, especially in the context of the discipline**

Throughout the course you will be provided with multiple opportunities for you to write – as part of the learning process generally and through two significant projects where you will write, and speak, about topics of particular interest to you. Project development & planning, drafting, and revising will be emphasized as well for the two major projects. Your writing will at times be designed to address audiences for particular purposes – often part of the work scientists do.

You see here not only goals relating to the content of the course but also goals that relate to further development of your skills as a person able to learn about and communicate about scientific ideas.