

COURSE GUIDE FOR GENG 5329 ***College Teaching Strategies for STEM***



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GENERAL INFORMATION

Course Title: GENG 5329 College Teaching: Strategies for STEM

Course Credit: 3 hours

Catalog Description: Designed as initial preparation for instruction at the college level; focuses on the basic skills, strategies, and issues common to university teaching. This course is open to graduate students committed to teaching in any area at the college level.

Texts/Resources: Angelo, T. A., & Cross, K. P. (2012). *Classroom assessment techniques*. Jossey Bass Wiley. **(required)**

Brookfield, S. D. (2006). *The skillful teacher: On technique, trust, and responsiveness in the classroom* (2nd ed.), San Francisco, CA: Jossey-Bass. **(required)**

Lowman, J. (1995). *Mastering the techniques of teaching* (2nd ed.), San Francisco, CA: Jossey-Bass. **(required)**

McKeachie, W., & Svinicki, M. (2013). *McKeachie's teaching tips*. Cengage Learning.

Packard, B. W. L. (2015). *Successful STEM mentoring initiatives for underrepresented students: A research-based guide for faculty and administrators*. Stylus Publishing, LLC.

Palmer, P. J. (2008). The heart of a teacher: Identity and integrity in teaching. *A Jesuit education reader*, 311-331.

Packard, B. W. L. (2015). *Successful STEM mentoring initiatives for underrepresented students: A research-based guide for faculty and administrators*. Stylus Publishing, LLC.

Course Goals: The goal of this course is to provide both a knowledge base and an environment to facilitate the development of skills, attitudes, competencies and values associated with teaching and learning on college and university campuses. In general terms, the course is intended to:

1. Familiarize you with actions of faculty that motivate and de-motivate students' learning.
2. Introduce you to other factors that influence student performance and acquaint you with various ways in which you can influence those factors.
3. Give you experience in learning how to plan efficiently and systematically for classroom instruction.
4. Familiarize you with the mastery learning concepts of Benjamin Bloom and John B. Carroll.
5. Familiarize you with the constructivist paradigm and the requisite implications for college teaching.

6. Prepare you to select appropriate outcomes for your instruction and teach you how to write learning objectives for your students.
7. Acquaint you with some of the problems, questions, and issues regarding the use of instructional objectives.
8. Give you practice in developing a comprehensive student course guide (syllabus).
9. Assist you in developing techniques that you can use to evaluate and revise your teaching.
10. Expose you to an array of problems, issues, and trends in the field of college and university teaching.
11. Acquaint you with various models of teaching used in the college and university classroom.
12. Introduce you to classroom assessment techniques (CATs).

Course Format

Given the broad scope of the topics to be covered, this course will rely heavily on extensive reading as well as instructor facilitated and student-led discussions.

Course Topics

The content of this course tentatively includes the following topics.

- I. WHAT CONSTITUTES EXEMPLARY TEACHING?
- II. UNDERSTANDING CLASSROOM DYNAMICS / GETTING UNDER WAY
- III. DEVELOPING INTERPERSONAL SKILLS AND TEACHING STYLES / RESPONDING TO A DIVERSE STUDENT BODY
- IV. ANALYZING AND IMPROVING CLASSROOM PERFORMANCE / LECTURE STRATEGIES
- V. SELECTING AND ORGANIZING MATERIAL FOR CLASSROOM PRESENTATIONS
- VI. ENHANCING LEARNING THROUGH CLASSROOM DISCUSSION / DISCUSSION STRATEGIES
- VII. PLANNING COURSE CONTENT AND TEACHING TECHNIQUES TO MAXIMIZE INTEREST/ ENHANCING STUDENTS' LEARNING AND MOTIVATION
- VIII. INTEGRATING LEARNING IN AND OUT OF THE CLASSROOM STRUCTURE / WRITING SKILLS AND HOMEWORK ASSIGNMENTS
- IX. EVALUATING STUDENTS / TESTING AND GRADING
- X. THE ART, CRAFT, AND TECHNIQUES OF EXEMPLARY TEACHING / EVALUATION TO IMPROVE TEACHING
- XI. INSTRUCTIONAL MEDIA AND TECHNOLOGY
- XII. DEVELOPING INSTRUCTIONAL OBJECTIVES / BLOOM'S TAXONOMY
- XIII. DEVELOPING A COURSE SYLLABUS
- XIV. CULTURALLY RESPONSIVE TEACHING STRATEGIES
- XV. MODELS OF TEACHING
- XVI. THEORIES OF LEARNING
- XVII. DEVELOPING CLASSROOM ASSESSMENT TECHNIQUES (CATs)
- XVIII. USING EFFECTIVE TEACHING TIPS IN THE CLASSROOM SETTING
- XIX. TEACHING AND LEARNING IN THE COLLEGE CLASSROOM

GRADING AND COURSE REQUIREMENTS

You determine your grade by the number of points earned on the various course activities. With this approach, there is no pre-conceived distribution of grades. Everyone or no one can receive an “A.” There are five different course requirements (with assigned point values) specified below.

Activity	Points
1. Class Participation	05
2. Course Syllabus	20
3. CAT Group Presentation	20
4. Teaching Portfolio	30
5. Article Facilitation	15
6. Weekly Assignments	10
Total	100

1. CLASS PARTICIPATION **05 points**

An important aspect of this course is the exchange of ideas, opinions, questions, and information. Consequently, you are expected to come to each class **fully prepared** to participate in classroom discussion. Points will be awarded for participation in class discussion as follows:

Unusually good contributions	04-05 points
Good contributions	02-03 points
Minimal, but acceptable contributions	00-01 points
Essentially no contribution	00-00 points

In arriving at this total, points will be awarded in several class discussions as follows:

Obviously well-prepared, significant contributions	04-05
Well-prepared, good contributions	02-03
Some preparation, minimal contributions	00-01
Simply there, little or no contribution, no participation	00-00

Your point total is determined by averaging ratings of your contributions over several class sessions.

2. COURSE GUIDE (SYLLABUS) **20 points**

You are required to prepare a comprehensive student course guide (syllabus). The syllabus can be constructed from a class that you are currently teaching, one that you plan to teach in the future, or one that you would like to teach. This syllabus should

reflect your personal ideas and interests. Please refer to **Appendix A** for the suggested components in a well-designed syllabus.

3. CAT GROUP PRESENTATION

20 points

Students will be assigned to groups to facilitate class discussion of a selected Classroom Assessment Technique (CAT). Groups will be expected to provide handouts and direct classroom discussion regarding their CATs. Grading will be based on clarity and organization of the discussion as well as the applicability and usefulness of handout materials and engagement of your audience. Presenters should prepare a sixty to seventy-five-minute interactive session highlighting their chosen CATs. **Appendix B** contains the rubric used to assess group performance.

4. TEACHING PORTFOLIO

30 points

The Teaching Portfolio has increasingly become a tool for summative and formative documentation in colleges and universities. The teaching activities that you are currently engaged in and/or have participated in for this course are useful sources that serve to reflect your teaching development and accomplishments. Details for fulfilling this particular course requirement outlined in **Appendix C**.

5. ARTICLE EVALUATION AND FACILITATION

15 points

You will be assigned an article and will be required to complete a short (**5-7 page**) evaluation. Your evaluation should include a brief summary of the article followed by a critique and reaction to the piece. The summary section should provide a general overview of the article and its contents. The critique and reaction sections should focus on the thesis or questions the author attempts to develop and subsequently address. Additionally, your critique should focus on questions such as, what are the strengths and limitations of the article? What is your reaction to the article? How does the article relate to classroom discussion or other readings completed during this course? And, how does the reading relate to your own personal experience in the college teaching and learning context? Article facilitation will consist of an oral (**approximately 15 minute**) presentation during the week the article appears on the tentative calendar (**Appendix D**). A hard copy of the paper should be submitted to the class and professor.

3. WEEKLY ASSIGNMENTS

10 points

A number of short projects will be assigned periodically throughout the semester. You will be asked to share your assignments with the class to facilitate discussion. Points for this course requirement will be averaged and assigned as follows:

Excellent	√ +	10 points
Good	√	08 points
Acceptable	√ -	07 points
Below Expectations	—	06 points

GRADES

Final grades will be assigned as follows:

For a grade of:

- “A” At least 90 total points
- “B” An accumulated point total between 80 and 89
- “C” An accumulated point total between 70 and 79
- “D” Any point total below 70

OTHER

You should refer to the PVAMU Student Code of Conduct (<https://www.pvamu.edu/sa/wp-content/uploads/sites/77/PVAMU-Code-of-Student-Conduct.pdf>) as a framework and guide for all matters related to student conduct and expectations. expectations regarding student conduct.

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other this, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation for their disabilities. Students with disabilities or who believe they have a disability should contact The Office of Disability Services to make the necessary arrangements if modifications are required to facilitate the classroom teaching and learning process. This office is located in the Owens Franklin Health Center, Room 222—they may be contacted directly at bblewis@pvamu.edu.

Class Attendance

If you must miss class, please let me know in advance by contacting me at (979) 393.8585 (cell) or 936. 261.3413(office). You are responsible for all materials covered in class and for completing any work assigned.

Tentative Course Calendar

Appendix D contains the tentative course calendar. Please note that this calendar is subject to change. Any necessary amendments will be announced in class.

Caveat

The schedule and procedures in this course are subject to change in the event of extenuating circumstances.

Conferences with the Instructor

I will be available to meet with students during regularly scheduled office hours or by appointment. I will also be available for conferences immediately before or after class. If you need to reach me by telephone or e-mail, my number and address is:

(936) 261-3413 (office number)
fabonner@pvamu.edu

**APPENDIX A
GUIDELINES FOR COURSE GUIDE (SYLLABUS)**

Suggested Components of a Course Syllabus

NOTE:

Your syllabus represents a conversation with your students. Make it personal – use “you” not “the student.” Don’t hesitate to say “I.” Really work at making sure that it reads like you talking and that it is clear, succinct, and complete.

General Information:

This section of the syllabus should include the course name, the course number, the number of credits, the days and times of the class meetings, and the room number or location where the course meets. This section also includes the information about the instructor including instructor’s name, office location, office hours, and office phone numbers. If the instructor chooses to list a home telephone number, any restrictions on its use should be explained.

Course Description:

A brief description of the nature of the course should be given in this section. This description should correspond to the official course description supplied in the college catalog.

Course Rationale: Major Purpose(s) of the Course

This section of the syllabus should explain why the student should take this course and describe the students for whom the course is intended (majors and minors in ____, etc.)

Pre-requisites/Co-requisites:

List any pre-requisites or co-requisites that are appropriate so that students understand what they should already know and what skills they should bring to the course so they can realistically assess their readiness. Also indicate if the course is a pre-requisite for another course. (If it is, you might mention when that course is offered, and, whether or not a particular grade is required.)

Course Goals/Objectives:

This section should tell students what they should learn from the course. There are two ways of doing this. The first is to do so in terms of general outcomes and reserve the statement of more specific outcomes for later. In this instance the instructor typically

writes one to three goals for each unit in the course. Thus, in a course containing 10 units there might be as few as 10 goals, or as many as 30. An example of a course goal follows:

In general terms, the course is intended to give you experience in learning how to plan efficiently and systematically for classroom instruction.

In some instances, an instructor may wish to use the syllabus to express all the specific learning objectives of the course. Given that a typical three-credit course divided into 10 units might contain as many as 50-200 objectives, it is very desirable to list them by unit. Some examples of objectives follow:

1. State the major premise and specific assumptions underlying the Hammons' systems approach to instruction.
2. Draw the Hammons' systems model of instruction and, in your own words, briefly explain the various elements of the model.
3. Given several hypothetical situations involving a student's progression through an instructional unit, use the Hammons' systems model to identify possible causes/solutions.
4. Given a series of statements regarding questions/issues about using a systems approach to instruction, answer any one of them to your instructor's satisfaction.

Resources:

List required and optional textbooks, supplies, and other materials needed for the course. Ideally, this section should include a statement informing students of locations where the textbooks or other resource materials can be obtained.

Conduct of the Course:

This section describes the instructional techniques used in the course and the reasons why they were chosen. If the course is designed to be self-paced or if part of the learning activities will take place elsewhere (laboratory, etc.), the student should be notified about it here. This section is also the place to discuss the availability and location of tutors, audio/visual materials, independent study labs, texts on reserve, and any required field trips, seminars, or guest lecturers, etc. that they will be required to acquire or attend.

Requirement of the Course: (may be included as part of the evaluation procedures)

This section indicates the major requirements of the entire course (including classroom, laboratory, shop, etc.), this is where you spell out what is required, what is optional, and (if not shown in the calendar) when it is due.

Evaluation Procedures:

In this section explain your plans for any diagnostic, formative, and summative evaluation measures. As an **absolute minimum**, spell out what students must do to earn an "A", "B", "C", etc. in the course and the criteria that will be used in assessing their performance. Test procedures should also be explained in this section. Students should know if examinations will test memory, understanding, the ability to synthesize, the

ability to apply knowledge in a new context, etc., and the type of test questions (essay, short answer, etc.).

Attendance:

In this section, explain **your** policy on attendance. If appropriate, you may refer to the sections of the college catalog that contain the college attendance policy, paraphrase the intent of the policy into your own words, or indicate your own policy. In any event, students should know your views and policies on missing a class, test or assigned work.

Class Procedures:

If you have any procedures and policies regarding any of the following, this is the place to include them: specific requirements for written assignments (format, length, number, copies, typed etc.); deferred grades; penalties for late assignments; tutoring assistance, methods of contacting you outside class; missed exams, etc.

Academic Dishonesty:

Spell out your views and policies on cheating, plagiarism, and other forms of academic dishonesty likely to be encountered in this course together with whatever institutional statements exist.

Course Units/Calendar:

An outline of the content of the course and a tentative calendar of important dates is beneficial to all students. The outline need be no more than a series of descriptive phrases in chronological order while the calendar should be an approximation of major events in the course (tests, withdrawal deadlines, project due dates, etc.).

Appendices:

Occasionally, there are lengthy or detailed materials (e.g., basic bibliography, directions for reading cards, suggestions for success, and criteria for presentations) that you want to make part of the syllabus.

Course/Instructor Evaluation:

Explain your plans for obtaining student feedback, your opinions about the importance of these data to you, and how you plan to use the data.

Caveat/CYR:

Because the course syllabus is a written legal covenant between the instructor and the students in the course, each syllabus should include a statement or “caveat” of the following sort: “The above schedule and procedures in this course are subject to change in the event of extenuating circumstances.” This caveat protects the instructor and department if changes in the syllabus need to be made once the course is underway.

APPENDIX B

CAT GROUP PRESENTATION EVALUATION FORM

PRESENTER(S) _____

RATING DEFINITIONS

EXCELLENT – NO NEED FOR IMPROVEMENT
IMPROVEMENT

ACCEPTABLE - OK, BUT SOME ROOM FOR

FAIR - MARGINALLY ACCEPTABLE

INADEQUATE - DID NOT MEET CRITERIA

FINISH _____ START _____	EXCELLENT 2.0 POINTS	ACCEPTABLE 1.5 POINTS	FAIR 1.25 POINTS	INADEQUATE 1.0 POINTS	COMMENTS
PRESENTATION / DISCUSSION					
1. PROVIDE A GOOD OVERVIEW OF THE CAT(S)?					
2. ALLOW SUFFICIENT CLASS PARTICIPATION (QUESTIONS, DISCUSSION, and AUTHENTIC INVOLVEMENT)?					
3. KEEP THE CLASS ON TOPIC (AVOID/CONTROL DIGRESSIONS)?					
4. PROVIDE ADEQUATE EXAMPLES / ILLUSTRATIONS WHERE NEEDED?					
5. USE A VARIETY OF APPROACHES (HANDOUTS, OVERHEADS, QUESTIONS, ETC.)?					
6. EXERCISE COMMON SENSE IN PRESENTING CONTENT (Description; Purpose; Related Teaching Goals; Suggestions for Use; Examples; Step-by-Step Procedures; Turning the Data You Collect Into Useful Information; Ideas for Adapting and Extending This CAT; Pros; Cons; Caveats.					
7. COMMUNICATE WITH THE CLASS AS OPPOSED TO JUST PRESENTING MATERIAL?					
8. SHOW EVIDENCE OF CAREFUL THOUGHTFUL PREPARATION?					
9. DISPLAY A COMPETENCE IN KNOWLEDGE OF THE CAT?					
10. PROVIDE A GOOD SUMMARY OR CONCLUSION?					

TOTAL POINTS/GRADE:

COMMENTS/SUGGESTIONS:

APPENDIX C

GUIDELINES FOR TEACHING PORTFOLIO

You are required to submit a teaching portfolio as the final class requirement. Each portfolio is intended to serve as documentation of your personal teaching vision and performance. The portfolio should include a **Table of Contents** and be divided into the following sections. **Section one** should contain a current *curriculum vitae*. **Section two** should contain a revised *philosophy of teaching statement*. **Section three** should contain the *syllabus* you completed as a course assignment. **Section four** should contain the handouts and materials submitted with your CAT presentation. **Section five** should contain the paper completed with your article facilitation and weekly assignments. **Section six** should contain current college teaching newsworthy items collected over the course of the semester (e.g. journal articles, magazine articles (Chronicle of Higher Education), campus communication, web-based information, etc.).

Criteria for Assessing the Portfolio:

1. Reflectiveness
2. Completeness
3. Evidence of application of course goals
4. Format: organization, presentation, creativity, and attractiveness.

WWW Sites on Teaching Portfolios**University of California—Berkeley**

<http://career.berkeley.edu/PhDs/PhDportfolio.stm>

University of Michigan

<http://www.crlt.umich.edu/tstrategies/tstpcp.html>

University of Saskatchewan

http://www.usask.ca/tlc/teaching_portfolios/index.html

University of Texas at Austin

<http://www.utexas.edu/academic/cte/teachfolio.html>

University of Texas at El Paso

<http://sunconference.utep.edu/CETaL/resources/portfolios/>

University of Washington

<http://www.fish.washington.edu/people/fdong/teach.html>

Washington State University

<http://www.wsu.edu/provost/teaching.htm>

WWW Sites on Sample Teaching Portfolios

Teaching Portfolios by Preservice Teachers

Teaching Portfolios by Inservice Elementary & Secondary Teachers
Teaching Portfolios by Professors and Graduate Students
http://curry.edschool.virginia.edu/class/edlf/589_004/sample.html

On-line Teaching Portfolios
<http://www.ags.uci.edu/~cfaustin/portweb.html>
<http://www.coe.ilstu.edu/jabraun/braun/professional.html>

Teaching Portfolio–Career and Professional Services
<http://education.umn.edu/SPS/career/teachport.html>

DRAFT

APPENDIX D
TENTATIVE CALENDAR

Date	Topics	Notes
	<p>* <i>Article provided by professor</i> ^ <i>Due to length of article—can be jointly facilitated</i></p>	
01/17	<p>Introduction and Overview (Howdy! 😊 😄 😃 😁) Topic 1: Motivators/De-motivators</p>	
01/31	<p>Topic 1: Lowman (Chapter 1) Topic 2: Brookfield (Chapters 1, 2) Topic 3: *<i>Heart of a Teacher</i> (Parker Palmer)</p>	
02/07	<p>Topic 1: Lowman (Chapter 2) Topic 2: McKeachie (Part 1) Topic 3: Brookfield (Chapter 3, 4) Topic 4: *<i>from Scholarship Reconsidered: Priorities of the Professoriate</i> (Boyer)</p>	
02/14	<p>Topic 1: Lowman (Chapter 3) Topic 2: McKeachie (Part 3) Topic 3: Brookfield (Chapters 5) Article Facilitation: *<i>Teaching Styles and Effects on Learning</i> (Dressel & Marcus); *<i>What It Means to Be a Critically Reflective Teacher</i> (Brookfield); *<i>Seven Principles for Good Practice in Undergraduate Education</i> (Chickering & Gamson) Due: Philosophy of Teaching</p>	
02/21	<p>Topic 1: Lowman (Chapter 4) Topic 2: McKeachie (Chapters 4, 5, & 6) Topic 3: Brookfield (Chapter 6) Article Facilitation: *<i>The Kolb Model Modified for Classroom Activities</i> (Svinicki & Dixon); *<i>Taking Teaching Seriously: Meeting the Challenge of Instructional Improvement</i> (Paulsen & Feldman)</p>	
02/28	<p>Topic 1: Lowman (Chapter 5) Topic 2: McKeachie (Part 5) Topic 3: Brookfield (Chapter 7, 8) Topic 4: *<i>Teaching the Multicultural Learner: A Musical Theory Approach to Pedagogical Practices</i> (Bonner) Article Facilitation: *<i>Learning Styles and Disciplinary Differences</i> (Kolb); *<i>What is Collaborative Learning</i> (Smith & McGregor) Activity/Discussion: Developing a Course Outline (Syllabus)</p>	
03/06	<p>Topic 1: Lowman (Chapter 6) Topic 2: McKeachie (Chapters 4, 5, & 6) Topic 3: Brookfield (Chapter 9) Article Facilitation: *<i>Toward Comprehensive Theories of Adult Learning</i> (Merriam & Caffarella); *<i>Disciplinary Differences in Classroom Teaching Behaviors</i> (Murray & Renaud) Activity/Discussion: Writing Instructional Objectives (Bloom's Taxonomy)</p>	
03/13	<p>SPRING BREAK</p>	
03/20	<p>Topic 1: Lowman (Chapter 7)</p>	

Topic 2: McKeachie (Part 4)

Article Facilitation: **^Practical Proposals for Motivating Students (Forsyth & McMillan); *Effective Social Arrangements for Teaching and Learning (Billson & Tiberius)*

Due: Packet on Writing Instructional Objectives

03/27

Topic 1: Lowman (Chapter 8)

Topic 2: McKeachie (Part 5)

Article Facilitation: **^Learning Theory and Research (Fincher); *Theories of Personal Development and Learning (Silverman & Casazza); *Theories Related to Cognitive Developmental Learning (Silverman & Casazza);*

Activity/Discussion: Crafting a Philosophy of Teaching

Due: Course Outline (Syllabus)

04/03

Topic 1: Lowman (Chapter 9 & 10)

Topic 2: McKeachie (Chapters 7, 8, 9, 10, 11)

Topic 3: Brookfield (Chapter 10, 11, 12, 13, 14)

04/10

CAT Group #1 Presentation

CAT Group #2 Presentation

04/17

CAT Group #3 Presentation

Panel Discussion (Issues Impacting Faculty of Color: Voices from the Margins)

Read: **An Overview of the Literature (Stanley); *Challenging Racial Battle Fatigue on Historically White Campuses: A Critical Race Examination of Race-Related Stress (Smith); *The Temple of My Unfamiliar (Bonner); *Summary and Key Recommendations for the Recruitment and Retention of Faculty of Color (Stanley)*

04/24

CAT Group #4 Presentation

CAT Group #5 Presentation

CAT Group #6 Presentation

05/01

CAT Group #7 Presentation

CAT Group #8 Presentation

Due: Teaching Portfolios (includes your Philosophy of Teaching)