



MGMS 7401 – EARTH SCIENCE FOR MIDDLE SCHOOL TEACHERS

Instructors: Professor Joseph S. Covert (joseph.covert@ung.edu) and Professor Bryan Fagan (bryan.fagan@ung.edu)

View Supplemental Syllabus at

http://ung.edu/college-of-education/_uploads/files/Supplemental-Syllabus-2013-14.pdf

Course Text:

Gore and Witherspoon (2013) *Roadside Geology of Georgia, 1st Edition* (ISBN 0878426027)

Langmuir and Broecker (2012) *How to Build a Habitable Planet, Revised and Expanded Edition* (ISBN 0691140065)

LiveText, Inc.:

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Desire to Learn (D2L)

For MGMS program, access at <https://go.view.usg.edu/> University System of Georgia's

Desire2Learn Help Center provides assistance through their 'knowledge base'

<http://d2lhelp.view.usg.edu/> & 855.772.0423. The USG D2L Help Center is available 24 hours a day, 7 days a week. The Online Support Center site includes a 'knowledge base'. There are sections for students & instructors. You can also call for technical support. Please encourage students to check the 'knowledge base' before calling tech support. Also reference CTLE's D2L website.

PROGRAM CALENDAR

Please note that the MGMS calendar is different from the college's calendar. View calendar at <http://www.georgiaonline.org/gomlcalendars/student.phtml#y2012>

COURSE DESCRIPTION

In this course, students will learn about the Earth System from a systems-based approach focusing on the integrated processes responsible for the structure and function of the earth system. A special emphasis will be placed on the modern scientific understanding of global climate change. All material will be correlated to Georgia Performance Standards relevant to the middle grades classroom.

Conceptual Framework (CF)

Intellectual Engagement (IE)	Research Based Teaching and Learning (RB)	Advocacy and Service (AS)
a. Critical thinking and creative problem-solving in theory and practice b. Active engagement in reflective practice c. Professional collaboration and communication d. Commitment to ongoing professional development	a. Content literacy b. Data driven decision-making c. Student centered teaching and learning d. Technological literacy e. Immersion in the learning community through field experience and clinical practice	a. Promote social justice and human rights for the individual and in communities b. Leadership c. Ethical practice d. Professional accountability

COURSE OBJECTIVES (EXPECTED OUTCOMES)

Course Objectives	Conceptual Framework Competencies	InTASC Standards
Increase student knowledge about the earth science content	RBa. Content literacy	4(l) The teacher knows and uses the academic language of the discipline and knows how to make it accessible to learners. 4(n) The teacher has a deep knowledge of student content standards and learning progressions in the discipline(s) s/he teaches. 5(i) The teacher understands the ways of knowing in his/her discipline, how it relates to other disciplinary approaches to inquiry, and the strengths and limitations of each approach in addressing problems, issues, and concerns.
Increase student understanding of the geology of Georgia	RBa. Content literacy	5(a) The teacher develops and implements projects that guide learners in analyzing the complexities of an issue or question using perspectives from varied disciplines and cross-disciplinary skills (e.g., a water quality study that draws upon biology and chemistry to look at factual information and social studies to examine policy implications). 5(b) The teacher engages learners in applying content knowledge to real world problems through the lens of

		interdisciplinary themes (e.g., financial literacy, environmental literacy).
Increase student ability to use technological tools	RBd. Technological literacy	5(e) The teacher develops learners' communication skills in disciplinary and interdisciplinary contexts by creating meaningful opportunities to employ a variety of forms of communication that address varied audiences and purposes 6(i) The teacher continually seeks appropriate ways to employ technology to support assessment practice both to engage learners more fully and to assess and address learner needs.

METHODS OF INSTRUCTION

This is a fully online course for the Middle Grade Math and Science Program and as such there is a high degree of emphasis placed on the learner taking ownership and responsibility for their learning in the course. Each topic in the class will center on a reading assignment that encompasses material from either or both of the required textbooks and will require the student to read and synthesize information from a variety of sources. Topics may also included online simulations that students will be required to complete. Each unit will include a hands-on lab that students will be expected to complete and then report the results in their Reading Response Journal.

COURSE GRADING/EVALUATION METHODS

Assessment Category	Points Possible	% of Final Grade
Reading Assignment Responses	65	43
Essay Response Questions	50	33
Wiki Rock and Mineral Collection	15	10
Wiki Geologic Tour of Georgia	20	13
Total Points	150	

Reading Assignment Responses

On a weekly basis students will write responses to questions contained in each the reading assignment. These responses will be graded at the end of each unit. Student will maintain an online notebook that documents their progress through the class. Each Reading Assignment Response will be worth five points, three points for completion and accuracy and two points for technology enrichment (e.g. linking relevant videos, embedding pictures, websites).

Essay Response Questions

After each unit students will be required to write an essay in response to a writing prompt that encompasses the content for that unit. Each essay will be worth ten points, graded on accuracy.

Wiki Rock and Mineral Collection

The Wiki Rock and Mineral Collection is a virtual rock collection. Students will research different

types of rocks then virtually collect samples of each type. This assignment will be worth a total of 15 points, rubric will be provided in LiveText.

Wiki Geologic Tour of Georgia

The Wiki Tour of Georgia will be a combined out of class and online project where students will visit unique geologic features near their home. This assignment will be worth a total of 20 points, rubric will be provided in LiveText.

COURSE CALENDAR

Units	Topics	Assignments and Due Dates
Dynamic Systems	Models in Science	
	Energy in Systems	Dynamic Systems Reading Response Journal and Essay due 9/3/13
The Dynamic Earth, Part 1	Plate Tectonics	
	Rocks and Minerals	Rocks and Minerals Wiki due 9/30/13
	Soils and Nutrient Cycles	The Dynamic Earth, Part I Reading Response Journal and Essay due 9/30/13
The Dynamic Earth, Part 2	Water Cycle	
	Circulation: Oceans and Atmosphere	
	Weather and Climate	The Dynamic Earth, Part II Reading Response Journal and Essay due 10/21/13
Our Solar System	The Moon and the Lunar Phases	Geologic Tour of Georgia due 10/28/13
	Seasons and Orbits	
	Structure and Formation of Our Solar System	Our Solar System Reading Response Journal and Essay due 11/11/13
The Universe	The Modern Universe	

	The Big Bang and the Formation of the Modern Universe	The Universe Reading Response Journal and Essay due 12/2/13
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