EDCI 597.01W / 690.01W Nature and Needs of the Gifted in the STEM Areas

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COURSE INFORMATION

Textbook(s) Required: No textbook is required for this class.

Selected Articles will be used in this class in lieu of the textbook.

Course Description

This course will explore who the gifted and talented student is, the needs of this student and how defined needs must be addressed in science, technology, engineering, art, and mathematics.

Student Learning Outcomes

Describe the nature and needs of the gifted and talented student particularly as related to success in the fields of science, technology, engineering, math.

Discuss the issues-- definitions, identification, curriculum and instruction-- appropriate for gifted and talented students in STEM and STEAM areas.

Discuss issues addressing the global importance of having a ready pipeline of talented college graduates prepared to enter careers in science, technology, engineering, and mathematics.

Analyze and evaluate curricular programs commercial resources designed to address the needs of gifted and talented students in the STEM areas.

Create professional development effective in changing the status of STEM and STEAM in the K-12 educational setting.

COURSE REQUIREMENTS

- Read a set of readings selected for the course.
- Write summaries of the content of a set of readings selected for the course revealing knowledge, comprehension, and the ability to apply understandings.
- Formulate discussion posts in response to discussion prompts based on selected readings.
- Review and write an analysis and evaluation of curriculum programs and strategies designed for the implementation of STEM in the K-12 setting.
- Create an idea for training teachers in strategies for addressing STEAM in the K-12 educational setting.

GRADING

Designated point values will be assigned for all assignments in this class. It is expected that all submissions will be thorough, thoughtful showing knowledge of the content. Summaries of readings in this class should reveal that the student has knowledge and understanding of the content of the readings and has the ability to apply and make connections between the content and the classroom and school setting. A global, nebulous summary is unacceptable.

Students will be expected to draw conclusions and justify or support conclusions drawn by providing specific content drawn from selected readings for this class.

Quality discussion posts which address the requirements of the discussion prompt are expected. Posts to the posts of other students in the class should be significant and should add new information to the class discussion.

All course assignments must be completed according to defined specifications of the course. None of the assignments will be optional unless indicated. All work is to be completed individually unless specifically and explicitly assigned as a group project.

The following scale will be used in this class:

90 - 100 A

80 - 89 B

70 - 79 C

60 – 69 D

Below 60 F

Students are expected to proofread and edit all work submitted. This includes discussion posts, reflections and reactions. Grammatical errors and other conventional errors in excess of four will be considered replete and excessive.

Absences: Ongoing, regular presence is expected during this course. Should it be necessary to be absent from the class for an extended period of time, the instructor should be contacted. See the University Attendance Policy:

http://www.tamuc.edu/administration/Rules&Procedures/rules_procedures.asp?RID=88

Discussion Forum Rubric

Criteria	Exemplary	Accomplished	Developing	Beginning
Points Possible: 25	**5**	**4**	**3**	**1**
Critical Thinking Skills**	Discussions incorporated all 10 critical thinking skills and continued to widen discussion into larger picture/framework with no uncritical thinking statements	Discussion incorporated 6-9/10 critical thinking skills on a consistent basis and/or 1-2 uncritical thinking statements.	Discussion incorporated 5/10 critical thinking skills sporadically and/or a few uncritical thinking statements	Discussion only provided relevant and important statements and/or more than 6 negative uncritical thinking statements
Content/Subject Knowledge	Addresses the question completely and in-depth; points are all clearly made and all evidence supports arguments/rationale; clearly has grasp of content and elaborates with explanation and examples	Sufficient information that relates to the topic; includes essential accurate information that satisfactorily addresses the question/topic.	Includes some essential information and begins to address topic/question, but great deal of information is not clearly connected.	Points not clear; information included does not support topic in any way; does not have grasp of information.
Coherence & Organization	Information clearly stated and developed; specific examples are appropriate; conclusion is clear; flows well together in a logical order; good transitions; succinct but not choppy.	Majority of information is presented in a logical sequence; generally very well organized, but better transitions from idea to idea are needed.	Concepts and ideas are loosely connected; lacks clear transitions; flow and organization choppy.	Posting is disjointed and choppy; does not flow; development is vague and illogical in order.
Participation	Participation within the discussions was on a consistent, almost daily basis; high degree of engagement and interaction with others	Original post and good interaction/engagement with others (6-10); posting every other day	Original post and limited interaction/engagement (3-5); posting with a few days passing	Little (1-2 postings) to no participation; only provided original posting.
Timeliness	Posting and interaction occurred by Deadline	Posting and interaction occurred 2-3 day s after the deadline	Posting and interaction occurred 4-5 days after the deadline	Posting occurred more than 6-7 days after the deadline
/ 25 Points				

Indicators of critical (+) and uncritical (-) thinking within online discussion forums

Indicator	+	--
Relevance	Relevant statements	Irrelevant statements, diversions
Importance	Important points/issues	Unimportant, trivial points/issues
Novelty. New info, ideas, solutions	• New problem-related information • New ideas for discussion • New solutions to problems • Welcoming new ideas • Bringing new things in	• Repeating what has been said • False or trivial leads • Accepting first offered solution • Squashing, putting down new ideas • Dragged into discussion by instructor
Bringing outside knowledge/experience to bear on problem	• Drawing on personal experience • Refer to course material • Use relevant outside material • Evidence of using previous knowledge • Course related problems brought in (e.g. students identify problems from lectures and texts) • Welcoming outside knowledge	• Sticking to prejudice or assumptions • Squashing attempts to bring in outside knowledge
Ambiguities: clarified or confused	• Clear, unambiguous statements • Discuss ambiguities to clear them up	• Confused statements • Continue to ignore ambiguities
Linking ideas, interpretation	• Linking facts, ideas and notions • Generating new data from information collected	• Repeating information without making inferences or offering an interpretation • Stating that one shares the ideas or opinions stated, without taking these further or adding any personal comments
Justification	• Providing proof or examples • Justifying solutions or judgments • Setting out advantages and disadvantages of situation or solution	• Irrelevant or obscuring questions or examples • Offering judgments or solutions without explanations or justification • Offering several solutions without suggesting which is the most appropriate
Critical assessment	• Critical assessment/evaluation of own or others' contributions • Instructor prompts for critical evaluation	• Uncritical acceptance or unreasoned rejection
Practical utility (grounding)	• Relate possible solutions to familiar situations • Discuss practical utility of new ideas	• Discuss in a vacuum (treat as if on Mars) • Suggest impractical solutions
Width of understanding (complete picture)	• Widen discussion (problem within a larger perspective. • Intervention strategies within a wider framework.)	• Narrow discussion. (Address bits or fragments of situation. • Suggest glib, partial, interventions

TECHNOLOGY REQUIREMENTS

This online class requires consistent access to a computer preferably with high speed internet Service (DSL). Audio PowerPoint presentations necessitate this requirement. There may also be Class LivePro or Adobe Connect sessions that will require use of a **microphone.**

Hardware
Both Macintosh and Windows systems are acceptable. Students do not need to purchase a new system to begin online learning at the university.
o Windows 98/NT/2000/ME/XP
Pentium (2 GHz or greater)
128 megabytes (MB) random access memory (RAM)
2 GB or greater hard drive
o Macintosh
OS 9.1 to OS X; G3, G4, or higher
128 megabytes (MB) random access memory (RAM)
2 GB or greater hard drive

Software
o Word Processor - Microsoft Word is required. Microsoft Works, WordPerfect, and AppleWorks are not acceptable.

Connectivity
o Reliable Internet access through an established Internet service provider (ISP) is key to the online learning experience. Students should choose a DSL or cable-modem service where high speed internet is available.

Email
o Access to a reliable email service through an established Internet service provider (ISP) is critical to the online learning experience.

Web Browser
o Internet Explorer (version 6.0 or greater) or Netscape (version 7.0 or greater) is required. These browsers are available for free in the download areas at www.microsoft.com and www.netscape.com, respectively.
o Note: Browsers that are part of the MSN and AOL software are not acceptable, because they include proprietary modifications that may not work correctly with resources. Students may continue to use AOL or MSN as their Internet service provider, but once connected to the Internet, they should minimize the AOL or MSN window and launch Internet Explorer or
3
Netscape.

Plug-ins
o **Adobe Acrobat Reader**
□□Available at www.adobe.com, this free program (Adobe Reader 8) allows you to view and print many forms and some full-text

documents from online library databases.
o **Adobe Flash Player 9.0**
□□Available at www.adobe.com. This allows you to view any content delivered in Flash.
o **Quicktime Video Player**
□□Available for free download www.apple.com/quicktime.
o **RealPlayer**
□□Available at www.real.com
o **Windows MediaPlayer 11.0**
□□Available at www.microsoft.com/windows/windowsmedia/download.
o **Java Applet**
□□Since the online classroom is interactive and dynamic, it is important that students' Internet browser be Java-enabled. The Java Virtual Machine can be downloaded for free at http://java.com/en/index.jsp.

Virus Protection
o Viruses can be transmitted to computers as email attachments. Once a virus is resident on a computer, it can hinder performance, crash the computer, or damage files and hard drives - permanently. To protect their systems, students should purchase up-to-date antivirus software from a local computer store and regularly check their computers for viruses.
o Note: Students should keep their antivirus software current by downloading updates from the software company's Web site. Antivirus software is usually licensed for one year, with free updates. Most antivirus software can be configured to download virus definitions (or updates) automatically when the computer connects to the Internet. Students should download virus updates weekly or more frequently. Commercially available programs such as Norton Antivirus or McAfee can be configured to update virus definitions automatically at least once a week.

ACCESS AND NAVIGATION

Begin by completing the Course Information form located under Doc Sharing. All Assignments are located under the Units located on the navigation bar on the left side of your monitor.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement:
Call immediately if there are questions regarding course assignments (972-345-5386). You may want to use the Student Lounge for those questions that you fellow classmates may be able to answer.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

UNIVERSITY POLICIES

Accommodations for Students with Disabilities

Services for Students with Disabilities
(903) 886-5835

Each division within the University recognizes the needs of students with disabilities and is ready and willing to work with each student to solve problems as they arise. The Director of Disability Resources and Services is located in the Halladay Student Services Building, third floor. Services for those with disabilities are provided through the Student Support Services/Trio Program (tutoring, mobility assistants, readers, interpreters), the Counseling Center, the Communication Skills Center, the Mathematics Skills Center, and Disability Resources and Services. Students with learning disabilities must file an application during the first semester of enrollment at the university for
eligibility for assignment to the Academic Support Committee. Applications are available through the Trio Program, Disability Resources and Services, and Advisement Services. Other campus services are available to the disabled through the Department of Housing, the University Police Department, the Clarence G. Allen Student Health Center, the James G. Gee Library, and the Student Recreation Center. In addition, the Texas Rehabilitation Commission and the Texas Commission for the Blind work closely with the university to offer support to students who qualify. (TAMUC,2008-2009)
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Standards of Conduct

This policy defines good standing for graduate students enrolled at Texas A&M Commerce. Entering students who have been fully admitted (without any type of probationary admission, provisional admission, or other restriction) will be considered in good standing. A student will remain in good standing if, and only if, he or she has a cumulative grade point average of at least 3.00 and is free of the following holds: holds indicating delinquent financial indebtedness, academic suspension, academic probation, provisional status, and disciplinary suspension. Students who are not in good standing are not eligible to graduate until good standing has been achieved. (TAMUC, 2008-2009)

Academic Honesty

Graduate students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all their scholastic work. Faculty are expected to uphold and support student integrity and honesty by maintaining conditions that encourage and enforce academic honesty. Conduct that violates generally accepted standards of academic honesty is defined as academically dishonest. “Academic dishonesty” includes, but is not limited to, plagiarism (the appropriation or stealing of ideas or works of another and passing them off as one’s own), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments) and abuse (destruction, defacing, or removal) of resource material. If a student is accused of academic dishonesty, the faculty member making the accusation is responsible for initiating disciplinary proceedings. The penalty assessed should be related to the severity of the infraction. If the student and faculty member agree on the penalty, assessment of the penalty concludes the disciplinary action. However, certain violations of academic honesty, such as plagiarism, infringe upon the academic community’s basic tenets of scholarly inquiry. Therefore, if a faculty member believes the infraction is severe enough to warrant further action and/or if the problem may be cumulative, occurring in other classes in which the student is enrolled, the faculty member may file a report of the infraction with the Dean of Graduate Studies and Research. The student must be notified

that the report has been filed with the Dean of Graduate Studies and Research to allow the student the opportunity to file a response. If a faculty member believes the infraction is so severe that a penalty greater than failure on a project and/or course is warranted, the faculty member may recommend to the Dean of Graduate Studies and Research through the department head and academic dean that the student be suspended or expelled. If the student disagrees with the charge or level of penalty, he/she is entitled to due process in accordance with the University policy for student appeals. The appeal process for this policy is through the following channels: department head, Dean of Graduate Studies and Research, and the Administration Committee of the Graduate Council, which will present its recommendation to the full Graduate Council for final disposition of the appeal. Final jurisdiction on graduate student appeals is the Graduate Council. In addition, international students must comply with current Department of Homeland Security (DHS) and U.S. Citizenship and Immigration Services (USCIS) regulations. 11 (TAMUC,2008-2009)

Policy for Assignment of an Incomplete Grade

Students, who because of circumstances beyond their control are unable to attend classes during finals week or the preceding three weeks will, upon approval of their instructor, receive a mark of “X” (incomplete) in all courses in which they were maintaining passing grades. When an “X” is given for a grade in a course, the credit hours are not included for one semester (exclusive of summer) in calculating the grade point average. Grades of “X” earned during the spring or summer are to be completed by the end of the following fall semester. If the “X” is not removed by that time, the grade becomes an F, and the hours are included in the number of hours attempted. Recording a grade of “X” requires the filing of a plan for completion. The plan will be submitted with the official grade record sent to the department head who will forward it to the Dean of the College. The plan will include why the grade was given and steps necessary for the student to receive the final grade. A grade of “IP” (in progress) will be used for courses that are scheduled over more than one semester. The grade of IP will
not be computed in the grade point average and will be removed when the final grade is filed by the instructor. A grade of “I” will be given for courses in dissertation and thesis (including undergraduate honors thesis) for all registrations prior to the semester in which the final document is completed. The time limit imposed on the grade of “X” (one semester) does not apply for these courses. (TAMUC,2008-2009)

ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132

Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148

StudentDisabilityServices@tamu-commerce.edu
Student Disability Resources & Services

Student Conduct
All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

COURSE OUTLINE / CALENDAR
Complete the Student Information Form and submit your Introduction to the Class during the first three days of class.

Date	Assignment
Wednesday, June 3, 2014	Student Information Form Post Introduction to the Student Lounge
Sunday, June 9, 2014	Week One Assignments
Sunday, June 16, 2014	Week two Assignments
Sunday, June 23, 2014	Week Three Assignments
Sunday, June 30, 2014	Week Four Assignments

Enter eCollege for more extensive description of assignments.