Hagerstown Community College
MASTER SYLLABUS
STEM Seminar

COURSE: Science, Technology, Engineering, Mathematics **(**STEM) Seminar; 1 credit
INSTRUCTORS:
SEMESTER/YEAR: Spring 2017

COURSE DESCRIPTION:
This special topic seminar is designed for all students awarded National Science Foundation (NSF) S-STEM scholarships. The topics will be developed from the STEM disciplines from both the research and the applied perspective so students can experience the relationship between how scientific knowledge evolves and how that knowledge is used. Reading and discussion of discipline-based journal articles, at both the primary and the review level, will be emphasized. This course is meant to challenge your experience with STEM and demonstrate as to how all STEM disciplines are interrelated and full of opportunities to prepare you for a successful career. Prerequisites: 6 credits of coursework in STEM disciplines. 15 h/semester; 1 credit.

TEXTBOOKS: Journal articles will be assigned for most weeks. No official text is required.

STUDENT LEARNING OUTCOMES:

At the end of this seminar course students will

1. Demonstrate life/study skills that will prepare them for additional academic studies and professional employment. These include; demonstrating good attendance, academic discipline, effective study habits and skills, and respect and tolerance of diversity in the classroom.
2. Develop their ability to solve numerical problems.
3. Accurately depict and interpret graphical data.
4. Apply manual, reading, writing, and information literacy skills.
5. Discuss how major scientific theories have developed into areas of contemporary applied science and the social, ethical, and economic impact of those technologies.

COURSE ACTIVITY	Calculated time required	Hours
In class attendance: Lecture/Discussion	10 weeks x 1.5 h/week + 5 hr field trip	20 h
Reading journal articles and periodicals	10 weeks x 0.5 h/week	5 h
Presentation on STEM topic	10 h preparation time	10 h
Critical Thinking Paper	10 h preparation time	10 h
Total Class time		45 h

COURSE POLICIES:

1. **Attendance.** Students are expected to attend 100% of the class sessions and to be ready promptly at the starting time. Late arrivals are rude and disturbing to the guest and student presenters. Students will not be allowed to make up missed work unless arrangements have been made IN ADVANCE of the absence. Attendance is scored weekly with present and on time receiving 3 points, late/leave early and excused absences receiving 2 points and absent receiving 0 points. The attendance grade is computed as the sum of the weekly attendance scores divided by three times the number of class sessions times the attendance weighting (see below).

2. **Grading:** The components of this course will be weighted as follows:

Attendance	30%	
Critical Thinking Paper	30%	
Presentation	40%	
TOTAL		**100%**

Letter Grades will be assigned using the HCC standards of

90-100% A
80-89% B
70-79% C
60-69% D
59% and lower F

Presentation Guidelines:

- The presentation is a group effort. Each student in the group will receive the same score except for the collaboration scoring. The presentation score will be 75% of the total score with the collaboration scoring as 25%.
- Pick an appropriate topic and article(s) related to the course topics (as outlined in Moodle)
- A rubric will be used to assess the presentation and the collaboration (Handout and on Moodle). The presentation at a minimum must address the contents of the rubric.
- The presentation must be between 10 and 15 minutes and must use Microsoft PowerPoint. Presentations lasting less than 10 minutes or extending beyond 15 minutes will result in deductions: 10% for each minute under 10 minutes and beyond 15 minutes.
- Dates for student presentations will be assigned during week 1 of the course.

Critical Thinking Paper:

- Each student will be required to conduct individual research into a topic related to the course topics (as outlined in Moodle).
- The Topic will be: "Assume that a major science/technology/biology breakthrough occurs. Discuss the implications for and changes to society (good and bad) that would result from this breakthrough." You are free to select from one of the 20 Scientific American topics for this course.
- A rubric will be used to grade the Critical Thinking paper (Handout and on Moodle). The paper will be due on the last day of the course.

3. **COURSE MOODLE SITE**: Announcements**,** Instructor presentations, handouts, assignments, journal articles and study aids are available on Hagerstown Community College's Moodle website It is important to your success that you access course Moodle site.

4. **CHANGES TO THE COURSE**: Any of the components of this course may be changed at the discretion of the instructors

5. **SERVICES FOR STUDENTS WITH SPECIAL NEEDS**: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.