

COURSE APPROVAL DOCUMENT
Southeast Missouri State University

Department: Polytechnic Studies

Course No. EG201

Title of Course: Systems Engineering

Date: 9/21/15

Please check: New
 Revision

I. Catalog Description (1 Credit Hour):

This course introduces the students to the systems engineering process used to create multidisciplinary solutions to complex problems.

II. Prerequisite(s): MN220

III. Purposes or Objectives of the Course (optional):

Upon completion of this course, the student should be able to:

1. Understand systems engineering as an interdisciplinary process
2. Develop a systems engineering plan for a realistic project
3. Demonstrate the value of systems concepts in the development of products, processes, and services
4. Describe the key areas and activities in systems engineering processes and management
5. Apply systems engineering tools to realistic problems
6. Know how to proactively design for and manage system lifecycle targets
7. Formulate an effective plan for gathering and using data
8. Understand the system engineer's role and responsibilities

IV. Student Learning Outcomes (Minimum of 3):

1. Students will be able to describe the components of the systems engineering concepts.
2. Students will be able to demonstrate the application of systems engineering to practical problems.
3. Students will be able to describe the system life-cycle process and the major techniques in that process

V. Optional departmental/college requirements:

VI. Course Content or Outline (Indicate number of class hours per unit or section):

Topic	Hours
Course Intro / Systems Engineering and the World of Modern Systems	1
Systems Engineering Landscape	1
Structure of Complex Systems	1
The System Development Process	1
Systems Engineering Management	1
Needs Analysis	1
Concept Exploration	1
Examinations	1
Concept Definition	1
Decision Analysis and Support	1
Advanced Development	1
Software Systems Engineering	1
Engineering Design	1
Integration and Evaluation	1
Production, Operation and Support	1

Please Attach copy of class syllabus and schedule as an example

Signature: _____
Chair

Date: _____

Signature: _____
Dean

Date: _____

COURSE SYLLABUS

SOUTHEAST MISSOURI STATE UNIVERSITY

Department: Polytechnic Studies

Course No.: EG201

Title of Course: Systems Engineering

Revision: New

Instructor:

E-mail:

Office Hours:

Office:

Schedule:

I. Catalog Description and Credit Hours of Course:

This course introduces the students to the systems engineering process used to create multidisciplinary solutions to complex problems. (1 credit hour)

II. Prerequisites: MN220

III. Purposes of the Course:

Upon completion of this course, the student should be able to:

1. Understand systems engineering as an interdisciplinary process
2. Develop a systems engineering plan for a realistic project
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5. Apply systems engineering tools to realistic problems
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7. Formulate an effective plan for gathering and using data
8. Understand the system engineer's role and responsibilities

IV. Student Learning Outcomes:

1. Students will be able to describe the components of the systems engineering concepts.
2. Students will be able to demonstrate the application of systems engineering to practical problems.
3. Students will be able to describe the system life-cycle process and the major techniques in that process.

V. Expectations of Students:

- A. Complete all assignments on time. Use professionalism when dealing with faculty, staff and students.
- B. Students are expected to conduct necessary research to fulfill classroom assignments.
- C. Class attendance and participation are strongly encouraged.
- D. Take notes from textbook, and lecture discussions.
- E. Pass tests, conduct research, read assigned materials for discussion and application.

VI. Course Content or Outline:

Topic	Hours
Systems Engineering and the World of Modern Systems	1
Systems Engineering Landscape	1
Structure of Complex Systems	1
The System Development Process	1
Systems Engineering Management	1
Needs Analysis	1
Concept Exploration	1
Examinations	1
Concept Definition	1
Decision Analysis and Support	1
Advanced Development	1
Software Systems Engineering	1
Engineering Design	1
Integration and Evaluation	1
Production, Operation and Support	1

VII. Textbook(s) and/or Other Required Materials or Equipment:

Alexander Kossiakoff, William N. Sweet, Sam Seymour and Steven M. Biemer. *Systems Engineering Principles and Practice (2nd Edition)*. Published by John Wiley and Sons, 2011. ISBN 9780470405482

VIII. Basis for Student Evaluation:

Homework/Quizzes	25%
Project	25%
Mid-term exam	25%
Final exam (comprehensive)	25%
Total	100%

Grading Scale:

90% ≤ A ≤ 100%

80% ≤ B < 90%

70% ≤ C < 80%

60% ≤ D < 70%

F < 60%

Final exam schedule:

Final Exam Place: TBA

Final Exam Date: TBA

Final Exam Time: TBA

ACCESSIBILITY STATEMENT

SOUTHEAST MISSOURI STATE UNIVERSITY'S ACCESSIBILITY PLAN

Southeast Missouri State University will take such means as are necessary to insure that no qualified disabled person is denied the benefits of, excluded from participation in, or otherwise subject to discrimination because Southeast Missouri State University's facilities are physically inaccessible to, or unusable by disabled persons. The accessibility standard required by Federal law for 'existing facilities' is that the recipient's program or activities when viewed in its entirety, must be readily accessible to disabled persons.

Southeast Missouri State University may meet this standard through such means as reassignment of classes, or other services to accessible locations, redesign equipment, assignment of aides, alterations of existing facilities, and construction of new accessible facilities. Southeast Missouri State University is not required to make structural changes in existing facilities where other methods are sufficient to comply with the accessibility standard described above.

Because scheduling classes, coordinating accommodations, and arranging housing in accessible facilities may require reasonable advance planning, students with disabilities accepted for admission should identify themselves and their disability within five days of the start of the semester of enrollment and indicate the nature of accommodation needed for their disability.

For more information, see the [Disability Support Services](#) page or contact Disability Support Services, room 302, University Center, One University Plaza ms1300, Cape Girardeau, MO 63701; (573)651-2273.

ACADEMIC HONESTY

Academic honesty is one of the most important qualities influencing the character and vitality of an educational institution. Academic misconduct or dishonesty is inconsistent with membership in an academic community and cannot be accepted. Violations of academic honesty represent a serious breach of discipline and may be considered grounds for disciplinary action, including dismissal from the University.

Academic dishonesty is defined to include those acts which would deceive, cheat, or defraud so as to promote or enhance one's scholastic record. Knowingly or actively assisting any person in the commission of an above-mentioned act is also academic dishonesty.

Students are responsible for upholding the principles of academic honesty in accordance with the "University Statement of Student Rights" found in the STUDENT HANDBOOK. The University requires that all assignments submitted to faculty members by students be the work of the individual student submitting the work. An exception would be group projects assigned by the instructor. In this situation, the work must be that of the group. Academic dishonesty includes:

Plagiarism. In speaking or writing, plagiarism is the act of passing someone else's work off as one's own. In addition, plagiarism is defined as using the essential style and manner of expression of a source as if it were one's own. If there is any doubt, the student should consult his/her instructor or any manual of term paper or report writing. Violations of academic honesty include:

1. Presenting the exact words of a source without quotation marks;
2. Using another student's computer source code or algorithm or copying a laboratory report; or

3. Presenting information, judgments, ideas, or facts summarized from a source without giving credit.

Cheating. Cheating includes using or relying on the work of someone else in an inappropriate manner. It includes, but is not limited to, those activities where a student:

1. Obtains or attempts to obtain unauthorized knowledge of an examination's contents prior to the time of that examination;
2. Copies another student's work or intentionally allows others to copy assignments, examinations, source codes or designs.
3. Works in a group when she/he has been told to work individually;
4. Uses unauthorized reference material during an examination; or
5. Have someone else take an examination or takes the examination for another.

General Responsibilities for Academic Honesty. It is the University's responsibility to inform both students and faculty of their rights and responsibilities regarding such important matters as cheating and plagiarism. Most of what is considered unethical or dishonest behavior can be avoided if faculty and students clearly understand what constitutes such practices and their consequences. The University community should also be aware of the procedures to be followed should a breach of academic honesty occur.

The faculty member is responsible for clarification to his/her class of those standards of honesty for class assignments or functions where such standards may be unclear or when such standards vary from the accepted norm. Further, some faculty may choose to utilize preventive measures (multiple exams, alternate seating, etc.) to help insure the maintenance of academic honesty. However, the use of such measures is the prerogative of the individual faculty member and is not a responsibility or requirement of faculty in general.

The fundamental responsibility for the maintenance of honesty standards rests upon the student. It is the student's responsibility to be familiar with the University policy on academic honesty and to uphold standards of academic honesty at all times in all situations.

Protocol for Adjudicating Alleged Violations of Academic Honesty. Faculty members who discover evidence of academic dishonesty should contact the student within five business days of discovering the alleged dishonesty to arrange to meet and discuss the allegation. Prior to this meeting the faculty member may consult with the Department Chairperson, the appropriate Dean, and the Office of Judicial Affairs. The following sections describe the procedures to be adhered to in each of the listed instances: the student acknowledges the violation, the student denies the violation, and the appeals process. If the faculty member is the Department Chairperson, a departmental designee will assume the Department Chairperson's role in this protocol and references to the Department Chairperson should be read as departmental designee. The procedures below should be followed with online, ITV or face-to-face classes.

CIVILITY AND HARASSMENT

A major determinant of a successful educational experience is a shared sense of respect among and between the students and their instructor. Some of the texts and issues we will discuss may cause disagreements among members of the class. Multiple viewpoints are an essential component of any college course, and disagreeing with someone is fine. However, rude, disrespectful, aggressive, offensive, harassing, or demeaning

behavior —either face-to-face or in an online discussion—toward anyone in the class will not be tolerated; students are expected to abide by the Code of Student Conduct (<http://www6.semo.edu/stuconduct/code.html>). Should a student feel someone has acted inappropriately toward them in class, please speak with the instructor at once so the situation can be addressed. The instructor for the course reserves the right to ask a student to leave the classroom or the online discussion for any inappropriate behavior, and if the situation warrants, may call campus security to remove the offending student from class.

ADDITIONAL CONTENT

All tests and quizzes, assignments taken must represent your individual, unaided efforts. To **receive or offer** information during an examination is cheating. The use of unauthorized supplementary materials or any electronic device during tests is also cheating.

Calculators **permitted** while testing. Cell phones, iPods, iPhones and all other electronic devices **ARE NOT ALLOWED OUT ON CLASSROOM TABLES DURING EXAMS**. Cell phones and anything with an on/off switch must be OFF during all exams and during class. If phones ring during an exam, points may be deducted.