DATE OF LAST REVIEW: 02/2013

CIP CODE: 24.0101

SEMESTER: Departmental Syllabus

COURSE TITLE: Descriptive Geometry

COURSE NUMBER: ENGR-0103

CREDIT HOURS: 3

INSTRUCTOR: Departmental Syllabus

OFFICE LOCATION: Departmental Syllabus

OFFICE HOURS: Departmental Syllabus

TELEPHONE: 913-334-1100

EMAIL: Departmental Syllabus

KCKCC-issued email accounts are the official means for electronically communicating with our students.

PREREQUISITE(S): None

REQUIRED TEXT(S): Please check with the KCKCC bookstore, http://www.kckccbookstore.com for the require text for your particular class.

COURSE DESCRIPTION:
The graphic solution of geometric problems in three dimensions. Problems relate to points, lines and planes, the intersection and development of surface and forms and the practical applications of the principles involved. Emphasis is placed on developing the students’ ability to read exactly, to think exactly, and to draw exactly.

METHOD OF INSTRUCTION:
A variety of instructional methods may be used depending on content area. These include but are not limited to: lecture, multimedia, cooperative/collaborative learning, labs and demonstrations, projects and presentations, speeches, debates, and panels, conferencing, performances, and learning experiences outside the classroom. Methodology will be selected to best meet student needs.

COURSE OUTLINE:

Course content may vary, but will generally include the following:

I. Orthographic projection
   A. Horizontal Plane
   B. Frontal Plane
   C. Profile Plane
II. Auxiliary Views
   A. Primary
   B. Secondary

III. Straight and Curved Lines
   A. True Length
   B. Intersecting Lines
   C. Parallel Lines
   D. Line as a Point
   E. Helix

IV. Intersections
   A. Intersection of two surfaces
   B. Intersection of object and a plane
   C. Intersection of two objects

V. Developments
   A. Transition Piece
   B. Oblique cone and plane intersection
   C. Oblique prism
   D. Cylinder and plane intersection
   E. Cylinder intersections

EXPECTED LEARNER OUTCOMES:

A. Upon completion of the course the student will be able to demonstrate understanding of orthographic projection.
B. Upon completion of the course the student will be able to demonstrate understanding of auxiliary views.
C. Upon completion of the course the student will be able to demonstrate understanding of the relationship of straight and curved lines.
D. Upon completion of the course the student will be able to demonstrate understanding of intersection.
E. Upon completion of the course the student will be able to demonstrate understanding of developments.

COURSE COMPETENCIES:

Upon completion of the course the student will be able to demonstrate understanding of orthographic projection.
1. Upon completion of the course the student will be able to interpret data and project from each of the three principal planes of projection.
2. Upon completion of the course the student will be able to determine the true length of a line by projecting orthographically.
3. Upon completion of the course the student will be able to demonstrate understanding of the relationship between the horizontal, the frontal, and the profile planes.

Upon completion of the course the student will be able to demonstrate understanding of auxiliary views.
4. Upon completion of the course the student will be able to interpret data and create a primary auxiliary view.
5. Upon completion of the course the student will be able to interpret data and create a secondary auxiliary view.
6. Upon completion of the course the student will be able to interpret data and create a successive auxiliary view.
7. Upon completion of the course the student will be able to determine the true size of shape of an inclined plane.

Upon completion of the course the student will be able to demonstrate understanding of the relationship of straight and curved lines.
8. Upon completion of the course the student will be able to determine the true length of a straight line.
9. Upon completion of the course the student will be able to determine the true length of a line by triangulation.
10. Upon completion of the course the student will be able to determine the true length of a line by projection.
11. Upon completion of the course the student will be able to determine the true length of a line by revolution.
12. Upon completion of the course the student will be able to define a line as a point.
13. Upon completion of the course the student will be able to differentiate between lines that are above or below.

Upon completion of the course the student will be able to demonstrate understanding of intersection.
14. Upon completion of the course the student will be able to interpret data and draw the points of intersection of two surfaces.
15. Upon completion of the course the student will be able to interpret data and draw the intersection of an object and a plane.
16. Upon completion of the course the student will be able to interpret data and draw the intersection of two objects.

Upon completion of the course the student will be able to demonstrate understanding of developments.
17. Upon completion of the course the student will be able to interpret data and draw a transition piece.
18. Upon completion of the course the student will be able to interpret data and draw an oblique cone and plane intersection.
19. Upon completion of the course the student will be able to interpret data and draw an oblique prism.
20. Upon completion of the course the student will be able to interpret data and draw a cylinder and prism.
21. Upon completion of the course the student will be able to interpret data and draw intersecting cylinders.

ASSESSMENT OF LEARNER OUTCOMES:
Assessment methods may include, but are not limited to, the following: Homework, Assignments, Quizzes, Class Participation, Chapter Tests, and Final Exam. The grading scale and the process for calculating the course grades are to be determined by the individual instructors. This information will be included in each instructor’s syllabus.

SPECIAL NOTES:
This syllabus is subject to change at the discretion of the instructor. Material included is intended to provide an outline of the course and rules that the instructor will adhere to in evaluating the student’s progress. However, this syllabus is not intended to be a legal contract. Questions regarding the syllabus are welcome any time.

Kansas City Kansas Community College is committed to an appreciation of diversity with respect for the differences among the diverse groups comprising our students, faculty, and staff that is free of bigotry and discrimination. Kansas City Kansas Community College is committed to providing a multicultural education and environment that reflects and respects diversity and that seeks to increase understanding.

Kansas City Kansas Community College offers equal educational opportunity to all students as well as serving as an equal opportunity employer for all personnel. Various laws, including Title IX of the Educational Amendments of 1972, require the college’s policy on non-discrimination be administered without regard to race, color, age, sex, religion, national origin, physical handicap, or veteran status and that such policy be made known.

Kansas City Kansas Community College complies with the Americans with Disabilities Act. If you need accommodations due to a documented disability, please contact the Director of the Academic Resource Center, in Rm. 3354 or call at: 288-7670.