

**DFTG 2317 – Descriptive Geometry**

Course ID: 46408 – Spring 2015

Stafford Campus – Room N114 | 9:00 - 12:00 pm | Mon/Wed

2 hour lecture – 4 hour lab for 16 weeks

**Instructor:** Kris Asper

**Instructor Contact Information**:

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**COURSE DESCRIPTION:**

Examination of the graphical solution to problems involving points, lines, and planes in space.

**TEXT**:

Applied Descriptive Geometry.

Authors: Kathryn Holliday-Darr

Publisher: Cengage learning

**MATERIALS REQUIRED**:

16 GIG or larger flash drive, note book, model building materials, French Curve, Scales, and set of drawing instruments.

**COURSE GOALS**:

Demonstrate the ability to visualize spatial relationships; develop sequential thinking; set patterns of analysis; and spatial visualization through problem solving.

**LEARNING OUTCOMES:**

Demonstrate the use of Descriptive Geometry to create, display, plot, and build models in space from complex geometry. The student will be responsible for managing time, organizing and processing drawings and interpreting and responding to verbal instruction in the development of the drawing assignments or building actual models.

**COURSE OBJECTIVES:**

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

1. Find the point view of a line.
2. Find the true length view of a line.
3. Find the edge view of a plane and the true shape view of a plane.
4. Measure the angle between an oblique line and a plane and between two planes.
5. Determine the slop, bearing, grade, strike, and dip in typical civil engineering, oil field exploration and mining application problems.
6. Use graphical techniques for analysis of forces and velocities in structural machine design and motion system.
7. Determine the piercing points and intersections between lines and planes.
8. Construct developments of geometric shapes.
9. Solve typical engineering spacing problems.
10. Create sheet metals models.

**COURSE CURRICULUM STATEMENT:**

Advance techniques in the creation of drawings.

Create and use of Templates.

Create drawing annotation and dimensioning.

Apply Geometric dimension and tolerance.

Explore the four fundamental of views 1)true length of a line, 2)point view of a line, 3)edge view of a plane, and 4)true shape of a plane.

**GRADING**

Exams and assignments will be given during the semester that will determine how successful you are at mastering the course material and basic skills. If you are having limited success at mastering the course material, contact the instructor for assistance.

**Grading Percentage**

Assignments 33% of the final grade

Mid-term 33% of the final grade

Final exam 33% of the final grade

Instructor may schedule more tests if desired.

Class and laboratory attendance, active participation in class, professional attitude and growth in terms of technical skills development and teamwork within the laboratory environment shall be taken in to consideration.

**STUDENT ASSIGNMENTS**

Drawing assignments from each chapter will be assigned to enhance the learning of the Descriptive Geometry. Each assignment will stress the basic skills that a student must have to gain proficiency in generating drawing. The assignment will enhance the student ability to produce a clear and accurate drawing.

**Instructional Methods:**

DTFG 2317 Descriptive Geometry is graphical solution to problems involving points, lines, and planes in space.

As a professor, I will lecture on each chapter and demonstrate the technique of certain concepts. Work tutorials, exercises and problem will provide the student an opportunity to master the drawing software.

In order to become proficient in the use of the descriptive geometry, a student must read the text book and complete the exercises in a timely manner. Student should do the on line instructor evaluation.

**GRADING**

Assignments will be given during the semester that will determine how successful you are at mastering the course material and basic skills. If you are having limited success at mastering the course material, contact the instructor for assistance.

**Grading Scale**

90-100 A

80-89 B

70-79 C

60-69 D

Below 59 F

**AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE**

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, ect) who needs to arrange reasonable accommodations must contact the Disability Support Services Office (DSSO) of their respective college at the beginning of each semester.Faculty is authorized to provide only the accommodation(s) requested by the DSSO. For information and services at HCC Southwest, contact: **DR. Becky Hauri, ADA Counselor, at 713.718.7910.**

**CLASS ATTENDANCE:**

You are expected to attend all lecture classes and labs. You are also responsible for all materials covered in either lecture or lab. In the case of your absence, you must contact the instructor to obtain make-up assignments or arrange make-up testing, either of which can be distributed at the instructor's discretion. Class attendance is checked daily.

The instructor has the authority to drop you from the class for excessive absences, that is, you may be dropped from a course after accumulating absences in excess of 12.5 percent of the total hours of instruction (lecture and lab).

For example:

A 3-credit hour lecture class meeting 3 hours per week - 2 absences (6 hrs.) is 12.5% of the class.

A 3-credit hour lecture/lab class meeting six hours per week - 2 absences (12 hrs.) is 12.5% of the class.

Administrative drops are at the discretion of the instructor. It is your responsibility to drop a course, should you choose not to complete it. Failure to withdraw officially will result in you receiving a grade off" in the course.

**Note**: Although it is your responsibility to officially withdraw from a course, it is always a good idea to discuss any attendance problems with your instructor first. Class attendance is very important, but your instructor may be able to help you catch up. If you become ill or know you are going to miss class for some reason, tell your instructor as soon as possible.

Departments and programs governed by accreditation or certification standards may have different attendance policies.

**SCHOLASTIC DISHONESTY:**

Students are responsible for conducting themselves with honor and integrity in fulfilling course require­ments. College System Officials may initiate penalties and/or disciplinary proceedings against a student accused of scholastic dishonesty. "Scholastic dishonesty" includes, but is not limited to, cheating on a test, plagiarism, and collusion.

"**Cheating**" on a test includes:

* Copying from another student's test paper;
* Using materials during a test that are not authorized by the person giving the test;
* Collaborating with another student during a test without authority;
* Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of an un-administered test;
* Bribing another person to obtain a test that is to be administered.

**"Plagiarism"** means the misuse of another's work and the deliberate incorporation of that work into work you offer for credit. "Collusion" means the unauthorized collaboration with another person in preparing work offered for credit.

Determination of scholastic dishonesty will be at the discretion of the instructor.

Reference the following web link for additional information: <http://www.hccs.cc.tx.us/handbookiStudentP.htm>

**Attachment 1**

**Course Schedule**

**DFTG2317 Descriptive Geometry**

**Week 1**

Introduction and preface visibility.

**Week 2**

Auxiliary, true length line.

**Week 3**

Line on plane, true size planes.

**Week 4**

Piercing points, pictorial piercing points.

**Week 5**

Pictorial piercing point and intersections of planes.

**Week 6**

Dihedral angles, parallelism.

**Week 7**

Perpendicularly, angle between lines and planes.

**Week 8**

Mid-term Exam

**Week 9**

Angles between lines and planes. Intersection of plane and solid.

**Week 10**

Mining and civil engineering.

**Week 11**

Revolution techniques, development, vector 2D.

**Week 12**

Beam and trust, intersection of surfaces, vector in 3D.

**Week 13**

Tangency, intersections of planes and solids, shades and shadows.

**Week 14**

Shade and shadows, review and computer graphics, perspective projection.

**Week 15**

Map projections.

**Week 16**

Final exam