

COURSE SYLLABUS

DFTG 1345 (3:2:4)

PARAMETRIC MODELING AND DESIGN

Computer Aided Drafting & Design

Industrial Technology Department

Technical Education Division

Levelland Campus

SOUTH PLAINS COLLEGE

SPRING 2020

I. GENERAL COURSE INFORMATION

COURSE DESCRIPTION

DFTG 1345 – Parametric Modeling and Design (3:2:4)

This course is the use of parametric based design software for 3D design and drafting with an emphasis on rendering and using different media. It also includes basic terminology and concepts associated with the development of computer modules. Topics include basic parametric principles, model creation, light sources, camera positioning, rendering, importing and modification of external files.

The scope of Parametric Modeling & Design (DFTG 1345) will be for sixteen weeks, which will include two hours of lecture per week and four hours of laboratory per week, for a total of ninety-six contact hours per semester.

COURSE LEARNING OUTCOMES

Use parametric modeling techniques to create rendered assemblies, orthographic drawings, auxiliary views, animations and details from 3-dimensional models.

COURSE COMPETENCIES

Upon successful completion of this course the student will have accomplished the following skills and abilities:

1. Understand data, terms, and standards used in Parametric Modeling & Design.
2. Demonstrate an understanding and practical proficiency in Orthographic Projection and shape description.
3. Demonstrate an understanding and practical proficiency in Axonometric projection.
4. Demonstrate an understanding and practical proficiency in Perspective Drawing.
5. Demonstrate an understanding and practical proficiency in Rendering Techniques.
6. Demonstrate an understanding and practical proficiency in modeling for Parametric Modeling & Design.
7. Demonstrate an understanding and practical proficiency in Technical writing used in Parametric Modeling & Design.
8. Demonstrate an understanding and practical proficiency in Reproduction Methods used in Parametric Modeling & Design.
9. Demonstrate an elementary understanding of workflow management used in Parametric Modeling & Design.

ACADEMIC INTEGRITY

It is the aim of the Computer Aided Drafting & Design faculty of South Plains College to foster a spirit of complete honesty and a high standard of integrity. The attempt of any student to present as his or her own work which he or she has not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offender liable to serious consequences, possibly suspension.

Students should refer to the SPC General Catalog policy regarding consequences for cheating and plagiarism (see "Academic Integrity" as well as "Student Conduct" sections in the college catalog). At times, working with other students is encouraged for some assignments and meets SCANS competencies C-9 through C-14. If you have a question as to whether you may work with other students on any assignment, ask your instructor.

SCANS AND FOUNDATION SKILLS

Appropriate competencies and foundation skills set forth by the Secretary's Commission on Achieving Necessary Skills (SCANS) have been integrated into the DFTG 1345, Parametric Modeling and Design course. Specifically, they are C1, C2, C3, C5, C6, C7, C11, C14, C15, C18, F1, F3, F4, F5, F6, F10, F11, F12, F13 and F14.

For a complete list of SCANS Competencies that are addressed by the curriculum of DFTG 1305 - request more information from your instructor.

VERIFICATION OF WORKPLACE COMPETENCIES

DFTG 1345, Parametric Modeling & Design, is offered in the last phase of the Computer Aided Drafting & Design student's course work. During this phase, a Capstone Learning Experience is provided for students in their last semester to complete degree or certificate program requirements.

COURSE SYLLABUS

COURSE TITLE:	Parametric Modeling and Design
COURSE NUMBER:	DFTG 1345 (spring 2020)
LOCATION:	TA 207

INSTRUCTOR:	Terry Stucker
OFFICE LOCATION:	TA 205
PHONE:	806.716.2349
E-MAIL:	tstucker@southplainscollege.edu
Remind:	@spcpara

OFFICE HOURS:	Tues/Thurs: 10a-12p Friday: 8a-12p (by appointment only)
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SPECIFIC COURSE/INSTRUCTOR REQUIREMENTS

TEXTBOOK & OTHER MATERIALS

Textbook: (To be purchased)

Book Title: Parametric Modeling with Autodesk Inventor 2019

Author : Shih, Randy

Publisher: SDC Publications

ISBN: 978-1-63057-197-9

Spiral or other notebook for notes, sketches

Pen, Pencil, Eraser

Software: (Provided in CAD labs) – Inventor 2019

COURSE OUTLINE

- 1) SOFTWARE ORIENTATION
- 2) SOLID MODELING CONCEPTS AND CONSTRUCTION TOOLS
- 3) MODEL HISTORY TREE
- 4) PARAMETRIC CONSTRAINTS
- 5) PARENT/CHILD RELATIONSHIPS – BORN TECHNIQUE
- 6) PART DRAWINGS
- 7) DATUM FEATURES / AUXILIARY VIEWS
- 8) 3D PRINTING
- 9) ADVANCED TOOLS
- 10) SHEET METAL DESIGNS
- 11) ASSEMBLY MODELING / MOTION ANALYSIS

ATTENDANCE POLICY

The Technical Graphics Specialist is a professional person working in a business or industrial setting that demands much from its team of employees. For this reason, one who is often tardy or absent from work creates an additional burden for his or her co-workers.

The Computer Aided Drafting & Design program, similar to all the allied engineering professions, requires mature attendance to both lecture sessions and laboratory experiences. Obviously, once missed, a class situation cannot be effectively recreated for students who are not present. Your instructors feel that for a student to succeed, that student must not only be present, but must exercise prudent use of class time. Late or absent members tend to retard the progress of the entire class.

Punctual and regular attendance is required of all students attending South Plains College. Students are responsible for all class work covered during absences from class, even in cases in which they are able to satisfy the instructor that the absence was unavoidable. **ABSOLUTELY NO CLASS TIME WILL BE USED TO UPDATE INFORMATION MISSED DUE TO TARDINESS OR ABSENTEEISM**; the student must arrange an appointment with the instructor at a time that will not conflict with class schedules.

The CAD department implements the following standard absentee policy:

1. Two (2) possible absences per day (one for lecture, one for lab)
2. Students are allowed six (6) absences or 12 tardies*
3. Four (4) tardies = 1 absence
4. The 7th and 8th absence will result in a drop of one (1) letter grade per each absence
5. 9th absence will result in student being dropped from the course

*Tardies will be five or more minutes past class start time as shown in the appropriate schedule of classes. Also leaving class without all active assignments completed before the last 15 (fifteen) minutes may also be counted as a tardy.

NOTE: Instructors in the Computer Aided Drafting & Design program have the prerogative to amend the standard absentee policy. However, the instructor must notify each student in writing of the attendance policy change.

Any student wishing to drop this class should go through the proper procedure of initiating the withdrawal by obtaining a drop form from the Registrar's Office. This form must be signed by the instructor. This procedure provides the opportunity for counseling with the student by the instructor and determining the reason and justification for withdrawal.

Whenever absences become excessive, an Excessive Absence Report will be sent to the Dean of Students and, if in the instructor's opinion, minimum course objectives cannot be met due to absences, the student will be withdrawn from the course with the appropriate letter grade X, W, or F.

ASSIGNMENT POLICY

1. All required work must be turned in on time in order for the student to benefit from the corrections and to prepare for future assignments.
2. All assignments will be due at specified times and dates. Any drawing assignments that are not turned in at the specified time and date will immediately receive a grade penalty of 5 points and an additional 5 points per each additional day late.
3. All classwork **must** be saved to your folder on the cad server. If an assignment is not on the server at the time of grading, a grade penalty of 5 points will be applied.

4. Assignments with a grade below 85, unless otherwise specified, can be corrected and resubmitted for a corrected grade. A corrected grade will have a maximum value of 85. This is a one-time correction process.

GRADING POLICY/PROCEDURE

1. Daily course work (lecture and laboratory experiences) = **50%** of the semester grade. Practical drawing assignments will be graded on the following:
 - a. Correctness
 - b. Accuracy of views
2. Mid-Term Project = **20%** of semester grade
3. Final Project = **20%** of the semester grade.
4. Attendance **10%**

NOTE: Instructors in the Computer Aided Drafting & Design program have the prerogative to amend the standard assignment and grading policy. However, the instructor must notify each student in writing of changes made to assignment and grading criterion.

STANDARDS FOR COURSE GRADES

Final grades will be determined using the following scale:

- A: 90 - 100%
- B: 80 - 89%
- C: 70 - 79%
- D: 60 - 69%
- F: 59% or Below

ADDITIONAL POSICIES & ACCOMODATIONS

BUILDING POLICIES

- 1) **ABSOLUTELY NO** food, drinks or the use of tobacco products will be allowed in the classroom.
- 2) Headphones are not allowed during lecture portions of class, but are allowed during lab if the volume is turned down as not to be heard by other class members. Violation of this will result in loss of the privilege of using headphones.
- 3) Cellular phones must be turned off during the lecture portion of class.
- 4) Each student must clean their workstation at the end of class.
- 5) **ABSOLUTELY NO** rough or boisterous play or profanity will be allowed in the classroom.

- 6) Students should adhere to standards established in the SPC Catalog (Student Conduct) and Student Guide. Students in the Computer Aided Drafting & Design program must follow all safe practices in the classroom and other laboratory work areas. Further, chemical hazards and appropriate MSDS safety practices will be covered by the instructor during the first class session if potential for exposure exists.
- 7) The nature of Computer Aided Drafting & Design is to stay within established perimeters. In staying with these standards, the computers within the CAD Lab have been optimally set to enhance learning for students. The configurations are set to establish a base of reference for all students, and so the instructor can optimize aid to each student. Please do not alter the configurations of any workstation or computer at any time.

Lab computers are monitored remotely. Lab computers will be used for all class work. No outside computers or tablets are to be used in Lab rooms.

ACCOMMODATIONS

South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age (SPC Equal Opportunity Policy--General Catalog).

Diversity Statement

In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Disabilities Statement

Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

Non-Discrimination Statement

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College, 1401 College Avenue, Box 5, Levelland, TX 79336. Phone number 806-716-2360.

Title IX Pregnancy Accommodations Statement

If you are pregnant, or have given birth within six months, Under Title IX you have a right to reasonable accommodations to help continue your education. To activate accommodations you must submit a Title IX pregnancy accommodations request, along with specific medical documentation, to the Director of Health and Wellness. Once approved, notification will be sent to the student and instructors. It is the student's responsibility to work with the instructor to arrange accommodations. Contact Crystal Gilster, Director of Health and Wellness at 806-716-2362 or email cgilster@southplainscollege.edu for assistance.

Campus Concealed Carry Statement

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations and Frequently Asked Questions, please refer to the Campus Carry page at: <https://www.southplainscollege.edu/campuscarry.php>

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.