

Midland College
Syllabus
DFTG 2340
Solid Modeling and Design

Course Description:

A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

Text, References, and Supplies:

Parametric Modeling with Autodesk Inventor,
Randy Shih

This class will utilize the required text throughout the entire semester; therefore, having a book is essential.

Software: Inventor

NOTE: Students will be advised of the software version and book edition on the first day of class.

Students Learning Outcomes and Core Competencies:

The following list of course goals will be addressed in the course. The goals are directly related to the performance objectives. Upon successful completion of the course the student will:

1. Understand the basics of 3D modeling
2. Use sketch geometry
3. Use geometric constraints.
4. Use dimensioning in the sketch environment
5. Create base features from sketches.
6. Use the browser bar (model tree) to modifying existing model features.
7. Understand “design intent” and its application to solid modeling.
8. Create parts with multiple sketches and features.
9. Use placed features to modify a 3D model.
10. Understand the practical uses of parametric constraints (dimensions)
11. Create features from projected geometry.
12. Understand the importance of parent/child relationships in features.
13. Turn features on and off with the suppress features option.
14. Create multiview 2D drawings from 3D models
15. Use iProperties to fill out title block.
16. Create isometric views and other pictorial views from 3D model.
17. Create multi-sheet drawings.
18. Utilize work features for feature/model creation.
19. Create 2D drawings of auxiliary view from 3D model.
20. Use symmetrical features, including: revolved, mirrored, and patterns.

21. Use advanced 3D construction tools including, sweep, loft, and shell.
22. Create sheet metal parts.
23. Create assemblies using multiple parts and assembly constraints.
24. Create exploded assemblies from presentation file.
25. Use the Content Center to place standard components.
26. Reuse 2D AutoCAD files to create 3D models
27. Create contact sets for use with the contact solver.
28. Perform basic stress analysis.

Student Contributions, Responsibilities and Class Policies:

- Students are responsible for maintaining, organizing, and backing-up copies of all digital files. Failure to maintain an up-to-date backup may result in data loss.
- Students are expected to exhibit professional and courteous behavior on campus, in the classrooms and labs.
- Cell phones should be silenced while in class.

Attendance Policy

Regular and punctual attendance is expected of all students in all classes for which they have registered. It is the obligation of the student to notify the instructor of all absences as soon as possible and make up all missed work. All absences are considered to be unexcused until a valid reason is provided. It is the responsibility of the instructor to judge the validity of any reasons given for an absence.

Withdrawal Policy

It is the student's responsibility to initiate the withdrawal in the Office of Student Services. Students must complete an official withdrawal form either in person in the Student Services office, online or by written request. Failure to do so may result in the student receiving a grade of "F."

The last day for withdrawal for each registration period is published in the catalog and the current course schedule. Online withdrawal requests must be made on or prior to the dates listed.

Scholastic Dishonesty & Academic Misconduct

Midland College encourages high academic standards, including student responsibility for original work. As a part of this stance, Midland College endorses specific definitions and guidelines regarding scholastic dishonesty and academic misconduct, including the areas of cheating, plagiarism, and collusion.

Definitions and full policy can be found in the Student Rights & Responsibilities section of the online catalog at catalog.midland.edu.

Evaluation of Students:

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| <i>Assignments</i> | 45% |
| <i>Attendance & Regular Daily Work</i> | 35% |
| <i>Final Project/Exam</i> | 20% |

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|---------------------|----------|
| <i>90 and above</i> | <i>A</i> |
| <i>80-89</i> | <i>B</i> |
| <i>70-79</i> | <i>C</i> |
| <i>60-69</i> | <i>D</i> |
| <i>0-59</i> | <i>F</i> |

Course Schedule:

This course meets two or four times a week, for a total of two (2) lecture hours and four (4) lab hours.

Due dates for class assignments will be announced throughout the semester. This will be subject to the progression of the class; therefore, attendance is very important.

AMERICANS WITH DISABILITIES ACT (ADA):

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a “Notice of Accommodations” letter will be sent to instructors outlining any reasonable accommodations.

NON DISCRIMINATION POLICY:

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

Tana Baker

Title IX Coordinator/Compliance Officer
3600 N. Garfield, SSC 131
Midland, Texas 79705
(432) 685-4781
tbaker@midland.edu

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

Faculty Information:

Department Chair/Professor: Derek Gasch
Phone: O: 432-686-4809
Office Hours: TBD

Office: 235 LRC
Email: dgasch@midland.edu

Professor: Vanessa Hyatt
Phone: O: 432-681-6304
Office Hours: TBD

Office: 132 ATC
Email: vbaker@midland.edu

Adjunct Instructor: Sean Chaney
Phone: O: 432-685-6807
Office Hours: TBD

Office: 193 TC
Email: schaney@midland.edu

Adjunct Instructor: Kevin Starnes
Office Hours: TBD

Email: kstarnes@midland.edu

Students are encouraged to contact the instructor at any time; however, making an appointment will guarantee the instructor's availability at a specific time.

Division Information: Applied Technology

Division Dean: Curt Pervier

TC 143

Phone# 432-685-4676

Division Secretary: Lisa Hays

TC 143

Phone# 432-685-4676