

**FACS 2365 – Digital Drawing for Interiors**  
Spring Semester, 2018 (3 Credit Hours)

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**Course Lecture & Lab:** Margaret Lea Houston Building – MLHB - Rm 315. Tuesday and Thursday 12:30 pm – 1:50 pm.

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**Course Description:** FACS 2365 – Computer Graphics for Interior Designers: This course uses the special topics to address computer graphics for interior designers. This course will focus on implementing the design process through computer aided drafting techniques to produce construction and presentation drawings. Students will explore various computer aided drafting techniques to develop 2-dimensional and 3-dimensional drawings. Prerequisites: FACS: 2364, FACS 2387, FACS 1360, 3 credits.

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**Course Format:** This course will include instructional discussion, demonstrations and studio critiques of design drawings and models. The student is expected to read discussion material and produce work including timed assignments, and drawings during class, as well as outside of class. Computer drafting quality, quick sketching and rendering are emphasized along with presentation assembly. Project descriptions and requirements have been developed to simulate the real work and time commitments of practicing interior designers as this course prepares the student for the interior design professional workplace.

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**Required Text:**

Kirkpatrick, Beverly., *AutoCAD 2015 for Interior Design and Space Planning*. Prentice Hall, 2015. ISBN: 978-0-13-314485-7.  
Cline, Lydia, *SketchUp for Interior Design: 3D Visualizing, Designing, and Space Planning*, 2014. ISBN: 978-1-118-62769-3

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**Course Objectives:** Upon completion of this course, students should be able to apply knowledge to:

1. Describe the AutoCAD user interface and begin using parts of the screen.
2. Modify and save a workspace.
3. Begin an AutoCAD drawing and make settings for units, limits, grid and snap.
4. Make layers and assign color, line type and line weight to each layer using the AIA CAD Layer Guidelines for an Architectural D size sheet.
5. Set up an arch D title page for starting an interior design project.
6. Use basic commands to draw a conference and lecture room using basic space planning.
7. Use text style commands to modify original title sheet to make it original to the student for their interior design portfolio.
8. Create different layouts and plot sizes with appropriate line weights for different sizes of plotted scales.
9. Create multiple interior spaces using blocks that the student creates for doors, windows and furniture of various sizes.
10. Understand, set and save dimensioning styles and commands
11. Draw elevations, sections and adding details to a project that the student has created.
12. Create a furniture installation plan, add specifications and extract data for furniture, plumbing, appliance and room schedules.
13. Use the AutoCAD design center to obtain dynamic blocks and modify them for the student's project.
14. Create a reflected ceiling plan with the incorporation of voice, data, power, communication and lighting.
15. Create a presentation using the completed projects layout and sheet sets.
16. Create an isometric drawing and render a piece of furniture
17. Use solid and mesh modeling to create a 3-D view of a sofa.
18. Using advanced modeling techniques to create an interior perspective of a living room.

## **EXPECTATION FOR ENTERING STUDENTS:**

Upon entering this course the student is expected to possess skills and knowledge that include:

1. disciplined hand drafting techniques, and architectural lettering.
2. communicate architectural and interior design concepts in 2-dimensional drawings including dimensioned floor plan, furniture, fixture and equipment plan, finish plan, elevations and sections, stair details, lighting and ceiling plans, and electrical plans along with use of various schedules.
3. show professional discipline through developing organizational skills and participation in critiques related to the drawings that compose a set of construction documents.
4. basic understanding of the space planning process and implement bubble and block diagrams.
5. understand fundamentals of design theories and design composition that apply to two dimensional and three dimensional representations of spaces.
6. recognize and apply critical thinking using the art elements and principles of design to create solutions to design problems related to coordinating visual appeal in interior design, finishes, and accessories.
7. be able to understand and apply color principles and theories to two dimensional projects and three-dimensional design.
8. successfully communicate a design idea to a viewer by means of rendering in marker and color pencil media
9. develop an appreciation of how interior spaces are viewed by various groups as aesthetically pleasing
10. accessing internet through use of a personal or university provided computer.

**Student Learning Outcomes:** The following 2017 Council for Interior Design Accreditation standards will be addressed, and upon successful completion of the course, it is expected that students will meet the standards below.

- **Standard 5. Collaboration**  
**Student Learning Expectations**  
Students have **awareness** of:  
b) the terminology and language necessary to communicate effectively with members of allied disciplines.  
c) technologically-based collaboration methods.
- **Standard 8. Design Process**  
**Student Learning Expectations**  
a) Student work demonstrates the ability to **apply** space planning techniques throughout the design process.  
Student work demonstrates the ability to **apply** knowledge and skills learned to:  
b) solve progressively complex design problems.  
c) identify and define issues relevant to the design problem.  
d) execute the design process: pre-design, schematic design, and design development.  
e) synthesize information to generate evidenced-based design solutions.  
f) explore and iterate multiple ideas.  
g) design original and creative solutions.
- **Standard 9. Communication**  
**Student Learning Expectations**  
Students are **able** to effectively:  
b) express ideas in oral communication.  
c) express ideas in written communication.  
d) express ideas developed in the design process through visual media: ideation drawings and sketches.  
e) apply a variety of communication techniques and technologies appropriate to a range of purposes and audiences.
- **Standard 11. Design Elements and Principles**  
**Student Learning Expectations**  
a) Students **understand** the elements and principles of design, including spatial definition and organization.  
Student work demonstrates the **ability** to:  
b) explore two- and three-dimensional approaches across a range of media types.  
Students effectively **apply** the elements and principles of design throughout the interior design curriculum to:  
c) two-dimensional design solutions.  
d) three-dimensional design solutions.
- **Standard 12. Light and Color**  
**Student Learning Expectations**  
a) Students are **aware** of the environmental impact of illumination strategies and decisions.

e) Students have **awareness** of a range of sources for information and research about color.

Student work demonstrates the **ability** to appropriately:

j) select and apply color to support design concepts.

l) use color solutions across different modes of design communication.

- **Standard 13. Products and Materials**

**Student Learning Expectations**

d) appropriate design or specification of products and materials in relation to project criteria and human wellbeing.

e) Students select and **apply** products and materials on the basis of their properties and performance criteria, including ergonomics, environmental attributes, life safety, and life cycle cost.

f) Students are **able** to lay out, design, and specify a broad range of appropriate products, materials, objects, and elements in support of the design intent.

- **Standard 15. Construction**

**Student Learning Expectations**

a) Students have **awareness** of the environmental impact of construction.

Student work demonstrates **understanding** that design solutions affect and are impacted by:

b) base-building structural systems and construction methods.

c) interior systems, construction, and installation methods.

d) detailing and specification of interior construction materials, products, and finishes.

e) the integration of building systems including power, mechanical, HVAC, data/voice telecommunications, and plumbing.

h) Students **understand** the formats, components, and accepted standards for an integrated and comprehensive set of interior construction documents.

Students are **able** to:

i) read and interpret base-building construction documents.

j) contribute to the production of interior contract documents including drawings, detailing, schedules, and specifications appropriate to project size and scope.

**Grading Procedures:** All assignments and projects will be evaluated and graded for substantive content, design quality, soundness of planning, craftsmanship, presentation, creativity and specific criteria required in the assignment. Reassessment of grades will only be done when presented in writing and accompanied by professional documentation that supports the item in dispute. **A grade of C is required for credit toward a degree in interior design and as a prerequisite for the next level of course work in the interior design major.** All course work due in each course should be turned in on the date and at the time scheduled. **Late work will NOT be accepted unless proper documentation which includes the date of absence is provided by the student.** Course work will only be received if turned into the instructor. Never leave your work with someone else or outside the office suite. In accordance with the university catalog, you may not take the final exam unless all work is turned in. There is no extra credit accepted in this course. The only way a student can improve the course grade is to improve the work performance on examinations and assigned projects. Grades are allotted on the following grading scale based on the total points possible for each course:

895 - 1000 = A, 795 - 894 = B, 695 - 794 = C, 595 - 694 = D, 0 - 594 = F

**Assignments and Course Evaluation:**

See individual assignments and assignment rubrics for detailed descriptions and point distributions.

This section is subject to change per instructor.

Assignment 1 – 14 @ 50 points per assignment	700
Assignment 15	90
Assignment 16	90
Assignment 17	120
<b>Total:</b>	<b>1000</b>

**Course Outline:**

- i. Part I: Preparing to Draw with AutoCAD
  1. Introducing the AutoCAD Screen
- ii. Part II: Two-Dimensional AutoCAD
  1. 2. Drawing with AutoCAD: Basic Settings and Commands

2. Drawing with AutoCAD: Conference and Lecture Rooms
3. Adding Text, Tables and Raster Images to the Drawing
4. Printing and plotting
5. Drawing the Floor Plan: Walls, Doors, and Windows
6. Dimensioning and Area Calculations
7. Drawing Elevations, Wall Sections, and Details
8. Drawing the Furniture Plan: Adding Specifications and Extracting Data
9. Design Center, Dynamic Blocks, and External References
10. Drawing the Reflected Ceiling Plan and Voice/Data/Power Plan
11. Creating Presentations with Layouts and Sheet Sets

iii. Part III: Three-Dimensional AutoCAD

1. 13. Isometric Drawing and Gradient Hatch Rendering
2. 14. Solid Modeling with new exercises on Mesh Modeling
3. 15. Complex Solid Models with Materials, Lighting, Rendering and Animation
4. 16. Advanced Modeling

**Attendance (AP 800401):**

Each instructor is obligated to clarify her/his classroom policy regarding absences in writing to each student enrolled in class at the beginning of the semester. Each faculty member will announce to her/his class the policies for accepting late work or providing make-up examinations.

A student shall not be penalized for three or fewer hours of absences when examinations or other assigned class work have not been missed. Class absences will be counted only from the actual day of enrollment for the individual student in that specific class.

<http://www.shsu.edu/dotAsset/b719129b-9593-424f-9d5a-920e2eda6890.pdf>

**Student Absence Notification Policy (Dean of Students):** Distinction between non-emergency and emergency absences; included in this link is the Absence Notification Request Form: <http://www.shsu.edu/dept/dean-of-students/absence.html> Class attendance is expected for all classes and attendance will be taken during each class period. Each class period should be attended with the necessary supplies and materials for working. As stated in the University catalog, students are allowed to take three hours of absences for the purpose of personal illness, family funerals, university activities or legal matters. A fourth and fifth absences will result in a 5-point deduction for each of these absences from the final grade. A sixth and seventh absence will result in a 10-point deduction for each of these absences from the final grade. A total of 8 absences will result in a failing grade and the last regularly attended class day will be reported to the Registrar's Office when grades are due. Total absences will be posted at the end of the semester in separate column in Blackboard. Example: If a student has a final grade of:

94 and 4 absences (- 5 pts) the grade recorded is 89 a "B"

94 and 7 absences (-30 pts, 10 pts for the 4<sup>th</sup> and 5<sup>th</sup> and 20 pts for the 6<sup>th</sup> and 7<sup>th</sup>) the grade recorded is 64 a "D"

94 and 8 absences the grade recorded is an "F"

**It is the student's responsibility to make sure a tardy is recorded as a tardy and not an absence from class before the end of that class period.** Five tardies will be counted equal to one absence. Absences resulting from extenuating circumstances which are accompanied by appropriate documentation from the Office of Student Life will be evaluated on an individual basis.

**Academic Dishonesty (AP 810213):** Students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

<http://www.shsu.edu/dotAsset/728eec25-f780-4dcf-932c-03d68cade002.pdf>

During lab activities and exams/quizzes, students will be required to store their belongings in open bins and/or shelving. These dates are clearly spelled out on the class schedule. Please plan accordingly in order to properly store your valuables.

**Procedures in Cases of Academic Dishonesty (AP 810213):** Students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

<http://www.shsu.edu/dotAsset/728eec25-f780-4dcf-932c-03d68cade002.pdf>

Allegations of **student misconduct**, as defined in paragraph 5.2, Chapter VI of the *Rules and Regulations*, Board of Regents, The Texas State University System, and Sam Houston State University *Student Guidelines*, published by the Dean of Students' Office, will be referred to the Dean of Students' Office for necessary action. Dean of Students:

<http://www.shsu.edu/dept/dean-of-students/>

**Classroom Technology:** As members of the classroom community, all students have a responsibility to others who are a part of that community. The goal is to produce an environment that is conducive to learning. Students are to treat faculty and other students with respect. Cell phones, laptop computers, pagers, and similar devices have become increasingly a part of everyday life in our society; however, when used in the classroom environment they can become disruptive. Students are to turn off all cell phones and other electronic equipment while in the classroom. When cell phones or pagers ring and students respond in class or leave class to respond, it disrupts the class. Therefore, the use by students of cell phones, pagers, or similar communication devices during scheduled class-time is prohibited. All such devices should be turned off or put in a silent (vibrate) mode and ordinarily should not be taken out during class. If there is an emergency situation for a student, that student should inform the instructor and place himself/herself in a seat near the door where an exit for a phone call would be only minimally disruptive. With instructor approval, students may record lectures, take notes via laptop computer, etc., provided that they do not disturb other students in the process. Other exceptions to this policy may be granted at the discretion of the instructor. Any use of cell phones or other electronic devices during a test period is prohibited. Even the visible presence of a cell phone or other device during the test period may result in a zero for that test. Use of a cell phone during a test could result in a charge of academic dishonesty. During the test these instruments should be left at home or stored securely in such a way that they cannot be seen or used by the student. For a complete copy of Student Guidelines, see:

[http://www.shsu.edu/students/StudentGuidelines2007\\_2008.pdf](http://www.shsu.edu/students/StudentGuidelines2007_2008.pdf)

**Students with Disabilities (AP 811006):** It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail [disability@shsu.edu](mailto:disability@shsu.edu)). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired. SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. NOTE: No accommodation can be made until a student registers with the Services for Students with Disabilities. <http://www.shsu.edu/dotAsset/187f9029-a4c6-4fb4-aea9-2d501f2a60f3.pdf>

**Student Absences on Religious Holy Days (AP 861001):** Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20...." A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence. University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in



order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed. <http://www.shsu.edu/dotAsset/0953c7d0-7c04-4b29-a3fc-3bf0738e87d8.pdf>

**Academic Grievance Procedures for Students (AP 900823):** Academic grievances include disputes over course grades, unauthorized class absences/tardiness, suspension for academic deficiency, instructor's alleged unprofessional conduct related to academic matters, graduate comprehensive and oral exams, theses and dissertations, and withdrawal or suspension of privileges related to degree-required clinical rotation, internships, or other clinical service delivery in professional degree programs. If the dispute is determined to be based upon professional judgment, the aggrieved student is entitled to have, as appropriate and in turn, the department/school chair, College Academic Review Panel, academic dean, Dean of Graduate Studies (for graduate student issues), and Provost and Vice President for Academic Affairs form an opinion about the dispute and so advise the individual(s) involved. <http://www.shsu.edu/dotAsset/0bb1346f-b8d6-4486-9290-dba24123d0d8.pdf>

**Visitors in the Classroom:** Unannounced visitors to class must present a current, official SHSU identification card to be permitted into the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

**Instructor Evaluations:** Students that they will be asked to complete a course/instructor evaluation form toward the end of the semester.

**Study Tips:** The SAM Center for students with academic difficulty is available to all students. If a student is having difficulty with this course, contact the instructor as soon as possible for additional assistance if needed.

"Perhaps the most valuable result of all education is the ability to make yourself do the things that you have to do, when it ought to be done, whether you like it or not."--Thomas Huxley

**Classroom Rules of Conduct:** Students are expected to assist in maintaining a classroom environment that is conducive to learning. Students are to treat faculty and students with respect. Students are to turn off all cell phones while in the classroom. Under no circumstances are cell phones or any electronic devices to be used or seen during times of examination. Students may tape record lectures provided they do not disturb other students in the process. The Code of Student Conduct and Discipline is found at the following link: [http://www.shsu.edu/students/StudentGuidelines2007\\_2008.pdf](http://www.shsu.edu/students/StudentGuidelines2007_2008.pdf)

**Returning Work:** Due to accreditation procedures the department is required to keep student work done in major FACS, ETCM and ARTS courses. Work will be returned to the student to inform the student of their evaluation and grade. Selected work will be collected and held by the instructor until after the accreditation site.

1. Each student should photograph their work before turning it in to the instructor for evaluations. ARTS projects can also be photographed. ETCM drawings should be reprinted for the department.
2. Students must notify the program director in order for projects to be returned to them.

**Q-Drops:** A Q-drop is a drop made after the last date for tuition refunds (12th class day for fall/spring; 4th class day for summer) but before the date for which a drop would result in the grade of 'F' as published in the Academic Calendar. Students will be allowed no more than five Q-drops during their academic career at Sam Houston State University. Classes that are dropped prior to the Q-drop date will not count toward the limit. Students who have used their limit of five Q-drops will need to petition their respective dean to drop a class. If the dean refuses to grant permission to drop a class, a student will be required to remain in the class. This limit will take effect with the start of the fall 2004 semester. Any drops accumulated prior to the fall 2004 semester will not be included in the five Q-drop limit, nor will Q-drops from other universities.

**Interior Design Student Handbook:** Please see for additional information.

**Additional Suggested Reading:**

Ching, F. *Architecture: Form, Space and Order.*  
Karlen, M. *Space Planning Basics, Second Edition.*  
Ching, F. *Interior Design Illustrated.*

Koenig, P. *Design Graphics: Drawing Techniques for Design Professionals*.

**Student Agreement Sheet**  
**FACS 2365 - Computer Graphics for Interior Designers**  
Spring Semester, 2018 (3 Credit Hours)

Date\_\_\_\_\_

By signing this Student Agreement Sheet I, \_\_\_\_\_accept the responsibility for abiding  
(print name)  
by the information in this course syllabus.

Additionally, I agree to allow the interior design program in the Department of Family and Consumer Sciences to keep any and all interior design assignments, projects, papers, preliminary and final drawings, and reports produced in this course for a temporary period (up to two years) for accreditation purposes.

\_\_\_\_\_  
(Signature)

Contact phone number to be used to return projects:

Cell: ( \_\_\_\_\_ ) \_\_\_\_\_

Home: ( \_\_\_\_\_ ) \_\_\_\_\_