San José State University
Department of Design / Industrial Design Program
DSID123, Intermediate Industrial Design, Section 01, Fall 2015

Instructor: John McClusky
Office Location: Art 227
Telephone: (408) 924-4538
Email: john.mcclusky@sjtu.edu

Office Hours: 12:30-2:30pm Mondays drop-in (no appt. necessary)
2:30-3:30pm Mondays by appointment (Please give 24hrs notice)
Class Days/Time: Tuesday and Thursday 3:00-5:50pm
Classroom: IS118

Prerequisites: DsID 21, DsID 22, DsID 31, DsID 32, DsID 32A credit, Phys 1,
ArtH 70B, or with instructor permission

Course Fees: Course fees collected for DSID 123 are part of your SSETF fees
and will be used to supplement the costs of tools and supplies for
this class. A portion of those fees are also used to staff Student
Assistants in the 3D SEID Lab and BSID work rooms (Art 103,
Art 109, and Art 207). Some of these fees are also used to staff
the Central Art Shop and to provide equipment and tools to the
students.

The Department of Design requires that Industrial Design
students attend and pass the shop safety orientation at least once
each year. A shop test date will be reserved within the first two-
three weeks of the term. You must provide proof of enrollment
and a receipt from the bursar’s office that you have paid the
required $20 shop fee to fund #62089 prior to taking the test.

Canvas Course Management Website
Copies of the course materials such as the syllabus, assignment handouts, grading, etc.
may be found on the DSID 31 course Canvas website. You may find your link to this
website on MySJSU, along with your login/password info. You are responsible for
regularly checking with the messaging system in CANVAS for course updates,
assignments, etc. All online communication for this course will take place through
Canvas. Key topics to check on Canvas are the Calendar, Announcements, Assignments,
and Grades. Any last minute updates will be posted to Announcements, the entire
semester schedule is detailed in the Syllabus and Calendar, and your progress in the
course can be tracked through Grades. Please view Canvas as a tool for Active Learning.
To be alerted of updates you should set up your CANVAS email forwarding to forward
all class correspondence to your preferred email address.
Course Description
This course will focus on design theories, methods and presentation techniques used by product designers in product design. It will stress the introduction and application of behavioral research, ergonomics, industrial materials and manufacturing processes. There will be a particular emphasis placed on need-finding, determining appropriate design parameters and criteria, and designing creatively with constraints. With this in mind, students will be finding or will be provided with new information throughout the course that will require them to reprioritize and refine their design concepts to insure that their final design solution is appropriate to final, refined design criteria. You will be expected to create designs that serve a variety of design priorities and constraints to successfully complete this class.

The course is structured as a series of exercises that will help students identify needs and design opportunities, generate new design concepts, establish design criteria and priorities, and make appropriate design decisions to produce successful design solutions. Each exercise has corresponding deliverables that will affect students’ understanding of the problem space. Therefore, it is important that students meet deliverables when required to avoid a situation where they become unprepared to make design decisions or lack the needed information “fuel” for creativity.

Course Goals and Student Learning Objectives
Upon successful completion of this course, students will be able to:
LO1: Identify problems and product opportunities and formulate them into manageable and achievable project proposals.
LO2: Demonstrate effective design process through their use of two-dimensional and three-dimensional sketching and experimentation that enables them to explore, formulate and solve design problems and opportunities.
LO3: Develop a design concept from identified opportunity to product design solution
LO4: Undertake and utilize different types of research (competitive product research, ethnographic research, technology research), information gathering and analysis as it applies to product design.
LO5: Demonstrate a basic knowledge of applied ergonomics concepts in the form of useful, understandable and comfortable product concepts.
LO6: Demonstrate a basic knowledge of materials and manufacturing processes by specifying appropriate materials and processes for the production of their design concepts.
LO7: Exhibit an uncompromising and high professional standard for three-dimensional design and prototyping skills, techniques, tools, materials, and craftsmanship.
LO8: Apply appropriate formal language to a product to communicate the product use and purpose in a successful form that demonstrates their understanding of formal design elements and organizing principles acquired in previous DSID coursework.

LO9: Demonstrate effective use of orthographic projection drawing as a means of developing design concepts that are realistic and functional, specifying accurate plans for building appearance prototypes and, communicating their design concepts with accurate dimensions and realistic representations of internal components.

LO10: Articulate design awareness, knowledge and intent, both in their own work and when discussing the work of others in informal classroom discussions as well as formal critiques at the end of each project. This should be demonstrated in their ability to actively discuss, critique, and engage in professional review of their work and that of their peers work.

**Required Texts/Readings**

**Required Materials List**

There will be additional tools and materials required to complete the course assignments. Past examples of tools have included ventilators, files, saws, foam carving tools and other hand tools that students utilize in modelmaking (approx $300). Many of these would have been purchased in DSID31 and DSID32 but you should budget at least $200 in case you find yourself needing additional tools.

**Prototyping materials include:**

There will be additional tools and materials required to complete the course assignments. This has, in the past, cost students from $500 to as high as $1000 depending on the scale and complexity of a students’ final design direction. Due to this variation, we suggest that you budget towards the higher amounts to be safe.

Prototyping materials are difficult to calculate as this competition generates student projects that vary widely in scale and complexity. Some of the materials you should expect to purchase include:

- urethane modeling foam ($160-$320)
- modulan foam, if needed (available in the Spartan Bookstore $50-$200 depending on how many boards your project requires)
- sandpaper (100, 150, 220 and 400 grit approx.$100)
- Body filler and spot putty (Evercoat or Bondo approx. $40)
- paint and primer (we recommend Duplicolor brand paints or canned paint from Lowe Paint approx.$100)
- Foamcore ($30)
- Medium Density fiberboard ($50)
- Wood, if needed ($100)
- Sheets, rods and/or tubes of Plastic, if needed ($50)

**Required Reading List**

There is no textbook for this course. Any readings will be provided on the DSID123 Canvas site or at the King Library as needed throughout the semester.
**Recommended Reading List**

There are several books that are highly recommended for this course. Any or all of the following books are good additions to any Industrial Designer’s professional library but will not be required in this course.

These books are:


**Library Liaison**

Teresa Slobuski, Associate Librarian for Design Department
Email: teresa.slobuski@sjsu.edu
Phone: 408.808-2318

**Classroom Protocol**

Active participation in class activities is a significant factor in a student’s success in the Industrial Design program. Active learning facilitates mental growth, skill enhancement, creates a lifelong learner and improves the goals of becoming a good designer. Students are expected to be on time to class and when a class critique is planned, work is to be taped/pinned up to the walls by 10 minutes after the official start of the class period. Be ready to start the critique by 15 minutes after the class officially starts. Students are to be respectful of the professor and their peers and any disruptive activities in the classroom will result in the student being asked to leave the class. Attendance is called at the start of class. Arriving late to class without prior arrangement and approval from the professor is disruptive and interrupts the flow of the class activities and, more importantly, it disrupts...
the students’ learning success. If the student cannot be in the classroom by the start of class, please do not interrupt the class in session by entering the classroom. You may enter when there is a break and with the instructors permission. If a student encounters any problems that inhibit their ability to participate in the class, please provide as much advance notice as possible to the instructor via Canvas so that he/she may respond and inform the student in a timely manner. Do not pass a message to the instructor through another student! Students are expected to leave the classroom in a clean condition at the end of each class meeting and as such, the last 15 minutes of class will be used to clean up the classroom, providing the next class an organized and clean room waiting for them. Cell phones, PDA’s, tablets, and even laptops can be disruptive and inconsiderate to your classmates and the instructor. These devices will not be used in this class and therefore should be disabled and turned off during all class time. If a device is to be used for a class activity the instructor will inform you in advance. **Phones are NOT permitted in this class** and you will be asked to turn off and store your phone at the start of each class. If you disrupt or withdraw from class activities due to your inability to silence and ignore any of these devices, it will count against the participation portion of your final grade and you will be asked to leave the classroom. Additionally, talking in class during a lecture is considered disruptive to the class and will adversely affect the participation grade and you may be asked to leave the classroom. If emergency personal issues (documented family, medical, etc) require you to leave your phone on, please make arrangements with the instructor prior to and in advance of the start of class.

**Dropping and Adding**

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. Refer to the current semester’s [Catalog Policies](http://info.sjsu.edu/static/catalog/policies.html) section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the [current academic calendar](http://info.sjsu.edu/web-dbgen/narr/catalog/rec-12788.13576.html). The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at http://www.sjsu.edu/aars/policies/latedrops/policy/. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/).

**Assignments and Grading Policy**

Students will be engaged in demos, discussions and critiques during class meeting times and they will be assessed on engagement in those activities in their Participation grade (LO10). Students will have homework assignments to do outside of class (12-18 hours per week) that include reading and writing assignments, research activities and, two- and three-dimensional sketching and drawing assignments as required by the course assignments (LO 1-10). Students will be required to be present to discuss their work in classroom critiques (LO 10). Grading will follow the standard SJSU A-F system.

- A+, A, A- / 100+ - 90% / Excellent
- B+, B, B- / <90 – 81% /5 Above Average
- C+, C, C- / <80-71% / Average
D / <70-61% / Below Average
F / <61%-0 / Failure

Grading is weighted as follows:
(1) Group Research presentations and report 5%
(2) 1st Round of 5 Design concepts 7.5%
(3) Individual Research (Initial Project Summary Booklet) 7.5%
(4) Sketch portfolio 1 7.5%
(5) 2nd Round of 3-4 design concepts 10%
(6) Final, refined mockups with corresponding Presentation Drawings and initial, dimensioned Orthographics 10%
(7) Sketch portfolio 2 7.5%
(8) Final, refined orthographics with all necessary dimensions and material specifications to build and present final 7.5%
(9) Final model 5%
(10) Final design concept and presentation 10%
(11) Final project summary booklet 7.5%
(12) Class Participation 15%

All assignments are due on time. No late work is accepted. A passing grade for this course is a D-. The Participation grade in this course will be assessed through your engagement in Work/Practice sessions, assignment pin-ups, class discussions and critiques. Actively engaging and exhibiting life-long learning skills during class are the mode by which participation is assessed.

University Policies

Academic integrity
Your commitment as a student to learning is evidenced by your enrollment at San Jose State University. The University’s Academic Integrity policy, located at http://www.sjsu.edu/senate/S07-2.htm, requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at http://www.sa.sjsu.edu/judicial_affairs/index.html. Instances of academic dishonesty will not be tolerated. Cheating on exams or plagiarism (presenting the work of another as your own, or the use of another person’s ideas without giving proper credit) will result in a failing grade and sanctions by the University. For this class, all assignments are to be completed by the individual student unless otherwise specified. If you would like to include your assignment or any material you have submitted, or plan to submit for another class, please note that SJSU’s Academic Policy S07-2 requires approval of instructors.

Campus Policy in Compliance with the American Disabilities Act
If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97-03 requires that students with disabilities requesting accommodations must
register with the Disability Resource Center (DRC) at http://www.drc.sjsu.edu/ to establish a record of their disability.

Student Technology Resources
Though it is not anticipated that you will need any of this for this class, computer labs for student use are available in the Academic Success Center located on the 1st floor of Clark Hall and on the 2nd floor of the Student Union. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16 mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Peer Connections: Tutoring
Peer Connections is located in multiple locations across campus. It is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. The Center's tutors are trained and nationally certified by the College Reading and Learning Association (CRLA). They provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group, individual, and drop-in tutoring are available. Please visit Peer Connections for more information.

SJSU Writing Center
The SJSU Writing Center is located in Room 126 in Clark Hall. Staffed by professional instructors, upper-division, and graduate-level writing specialists from each of the seven SJSU colleges. Our writing specialists have met a rigorous GPA requirement, and they are well trained to assist all students at all levels within all disciplines to become better writers. Find more information at the Writing Center website.

Peer Connections: Mentoring
The Peer Mentoring is available at multiple locations throughout campus. It is staffed with Peer Mentors who excel in helping students manage university life, tackling problems that range from academic challenges to interpersonal struggles. On the road to graduation, Peer Mentors are navigators, offering “roadside assistance” to peers who feel a bit lost or simply need help mapping out the locations of campus resources. Peer Mentor services are free and available on a drop-in basis, no reservation required. The Peer Mentoring website is helpful for getting quick information.
Table 1 Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Demos, Activities, Assignments and Critiques</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Th 8/20</td>
<td>Review of syllabus, course content, assignment structure, course expectations, materials requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assignment 1: Group Research. Teams assigned. (LO 1,2&amp;4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assignment: Capture initial design concepts in presentable sketches.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class Activity: Review Final Project Summary Booklets</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>If needed:</strong> Review Central Design Shop Safety Video (Video is available online for further review at: <a href="http://www.sjsu.edu/at/atn/webcasting/events/shopysafety/index.html">http://www.sjsu.edu/at/atn/webcasting/events/shopysafety/index.html</a></td>
</tr>
<tr>
<td>2</td>
<td>T 8/25</td>
<td>Shop test for those who need it (Have Burser’s Office receipt for $20 with you).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class Activity: Brainstorming Exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work in research groups</td>
</tr>
<tr>
<td></td>
<td>Th 8/27</td>
<td>Critique: 10+ initial concept sketches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work in research groups</td>
</tr>
<tr>
<td>3</td>
<td>T 9/1</td>
<td>Lecture: Matrices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Work in research groups</td>
</tr>
<tr>
<td></td>
<td>Th 9/3</td>
<td><strong>Group Research Presentations</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Submit Final, group research reports to Canvas Assignment folder “Group Research” no later than <strong>9:00pm</strong> on Wednesday, Sept. 2.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assignment 2 &amp; 3: Individual Research and Design Brief</td>
</tr>
<tr>
<td>4</td>
<td>T 9/8</td>
<td>Lecture: Mockups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual consultations. Class time to work on research summary.</td>
</tr>
<tr>
<td></td>
<td>Th 9/10</td>
<td>Individual consultations. Class time to work on research summary.</td>
</tr>
<tr>
<td>5</td>
<td>T 9/15</td>
<td><strong>Group A Critique:</strong> First round of 5 design concepts. Include mockups and corresponding presentation drawings. (LO ; 7.5% of final grade)</td>
</tr>
<tr>
<td></td>
<td>Th 9/17</td>
<td><strong>Group B Critique:</strong> First round of 5 design concepts. Include mockups and corresponding presentation drawings. (LO ; 7.5% of final grade)</td>
</tr>
<tr>
<td>6</td>
<td>T 9/22</td>
<td>Individual consultations. Class time to work on research summary.</td>
</tr>
<tr>
<td></td>
<td>Th 9/24</td>
<td><strong>Due:</strong> First installment of your final project summary booklet. Summary of Individual Research and your personal design brief for the project. Include sketches and mockup photos.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Submit</strong> to Canvas assignment folder “Individual Research Summary and Design Brief” no later than 5:50pm on Thursday, Sept. 24. (LO ; 7.5% of final grade)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Due:</strong> Sketchbook 1 Submit your sketches in class. (LO ; 7.5% of final grade)</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Event Description</td>
</tr>
<tr>
<td>------</td>
<td>---------------</td>
<td>------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>T 9/29</td>
<td>Lecture: TBD</td>
</tr>
<tr>
<td></td>
<td>Th 10/1</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>T 10/6</td>
<td>Lecture: TBD</td>
</tr>
<tr>
<td></td>
<td>Th 10/8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>T 10/13</td>
<td><strong>Group B Critique:</strong> 2nd round design concepts (3-4). Include mockups and corresponding presentation drawings. (LO ; 10% of final grade)</td>
</tr>
<tr>
<td></td>
<td>Th 10/15</td>
<td><strong>Group A Critique:</strong> 2nd round design concepts (3-4). Include mockups and corresponding presentation drawings. (LO ; 10% of final grade)</td>
</tr>
<tr>
<td>10</td>
<td>T 10/20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Th 10/22</td>
<td></td>
</tr>
</tbody>
</table>
| 11   | T 10/27       | **Group B Critique:** Final design concept. Include refined mockups as needed, corresponding presentation drawings and dimensioned orthographic drawings (2-3 views).
Submit your orthographic drawings to the Canvas Assignment folder “Initial Orthographic Drawing” no later than 9:00pm on Tuesday, October 27. (LO ; 10% of final grade) |
|      | Th 10/29      | **Group A Critique:** Final design concept. Include refined mockups as needed, corresponding presentation drawings and dimensioned orthographic drawings (2-3 views).
Submit your orthographic drawings to the Canvas Assignment folder “Initial Orthographic Drawing” no later than 9:00pm on Thursday, October 29. (LO ; 10% of final grade) |
| 12   | T 11/3        | **Critique:** Final Design Orthographics and Model building storyboards. Your dimensioned orthographic drawings (2-3 views) and storyboards must be pinned up at the start of class. Utilize cross sections as needed.
Submit a copy of your refined, dimensioned orthographic drawings and a storyboard as to how you intend to build your final model to the Canvas Assignment folder “Final Orthographic Drawing and Storyboard” no later than 9:00 pm on Tuesday, November 3. (LO ; 7.5% of final grade)
Due: Turn in all of your project sketches in class. (LO ; 7.5% of final grade) |
<p>|      | Th 11/5       | Final Model Build                                                                 |
| 13   | T 11/10       | Final Model Build                                                                 |
|      | Th 11/12      | Final Model Build                                                                 |
| 14   | T 11/17       | Final Model Build                                                                 |
|      | Th 11/19      | Final Model Build                                                                 |
| 15   | T 11/24       | Final Model Build                                                                 |
|      | Th 11/26      | <strong>Thanksgiving Holiday: Campus Closed</strong>                                            |
| 16   | T 12/1        | Final Model Documentation. Submit 3-4 jpg images of your final model to the Canvas Assignment folder “Final Model” no later than 5:00pm on Wednesday, December 2. (LO ; 5% of final grade) |
|      | Th 12/3       | <strong>Due:</strong> All students’ final design presentations. Submit .pdf file to Canvas Assignment folder “Final Design Presentation” no later than |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12:00pm (noon), Thursday, December 3.</td>
</tr>
<tr>
<td>Group A Critique:</td>
<td>Give your final design presentation in class.  <em>All students should be in attendance.</em> (LO ; 10% of final grade)</td>
</tr>
<tr>
<td>17 T 12/8</td>
<td>Group B Critique:  Give your final design presentation in class.  <em>All students should be in attendance.</em> (LO ; 10% of final grade)</td>
</tr>
<tr>
<td>Final W 12/16</td>
<td><strong>Due:</strong> Submit your final project summary booklets (.pdf file) to the Canvas Assignment folder “Final Project Summary Booklet” <em>no later than 5:00pm on Wednesday, December 16.</em> This will be the end of the scheduled final exam for this course. (LO ; 7.5% of final grade)</td>
</tr>
</tbody>
</table>