

San José State University
Department of Design / Industrial Design Program
DSID 41, Materials and Processes I, Section 1, Fall 2018

Instructor:	Prof. Ron Boeder
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Email:	Ronald.Boeder@SJSU.edu
Office Hours:	MW 11:00 AM – 12:00 PM
Class Days/Time:	MW 12:00 PM – 2:50 PM
Classroom:	IS 118
Prerequisites:	Declared BSID Major; DSID 21; DSID 22; DSID 32; DSID 32A or BADS Major
Corequisites:	None
Course Fees:	None

Canvas Course Management Website & Course Format

This course uses a hybrid method of teaching. A hybrid course means that there are components of the course that are done in the classroom and other components that require using the online course management system. Course materials such as the syllabus, assignment handouts, reading, grading, etc. may be found on the DSID 21 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 class correspondence and grading will be managed through the class Canvas site. If you do not check Canvas often, you should set up your email forwarding to forward all class correspondence to your preferred email address. Key topics to check on Canvas are the Calendar, Announcements, Assignments, Reading, 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. You must have access to a computer and the internet to be able to access the Canvas site. You may also use a tablet or your phone. Some assignments will be required to be turned in on Canvas, in which case you will need to have access to some basic software such as MS Office (MS Word) or some writing software, Adobe Acrobat (for making pdfs), and basic scanning software for scanning sketches to upload to the assignment portal. See [University Policy F13-2](http://www.sjsu.edu/senate/docs/F13-2.pdf) at <http://www.sjsu.edu/senate/docs/F13-2.pdf> for more details.

Course Description

Materials and Processes I will introduce a range of the most common manufacturing processes, materials, and finishing operations. This introduction will be accomplished through a combination of lectures, study/research, design & critique, and field trips to manufacturer's facilities. All design involves requirements and constraints, some of which are dictated by materials and manufacturing processes. The designer can take advantage of these requirements and constraints, and utilize them as "opportunities" to help develop innovative and successful product designs. To take advantage of these opportunities industrial designers must understand the requirements and constraints of each process, be able to select the best material/process, be able communicate the rationale for selecting a given process to their counterparts in Engineering and Marketing, and to be able to have a useful development dialogue with engineers and manufacturers. This theme will be reinforced by researching, designing, and depicting in detail, multiple chairs, each designed to utilize a particular material and manufacturing process. Descriptive sketching, including hand drawn scale 2D scale orthographic views, are highly critical for success in this course.

Course Goals and Student Learning Objectives

Upon successful completion of this course, students will be able to:

LO1 Describe the major manufacturing processes, and articulate the pros, cons, and basic design rules and guidelines.

LO2 Integrate the selection of materials and manufacturing processes with the design development process.

LO3 Employ research methods to source information about materials and manufacturing processes.

LO4 Depict and communicate concepts/details required to communicate with engineers and manufacturers so as to procure manufacturing quotations and develop designs for production.

LO5 Select or recommend materials and manufacturing processes appropriate to a design.

LO6 Explain and communicate the rationale for selecting particular materials and manufacturing processes.

LO7 Exhibit an uncompromising and high professional standard for 2D skills, techniques, tools, materials, and craftsmanship.

L8 Collect, archive, edit, and produce a portfolio of work which can be used as a future reference document.

LO9 Discuss, critique, and engage actively in professional review of their and their peers work.

Course Content & Structure

The course will be structured with Lectures, Project Presentations and Sample Presentations. These will be supported by reading from the textbook and supplemental reading materials. Field trips and Manufacturing videos will be able to reinforce what is learned in the classroom lectures. Students will be required to take Quizzes and Final Exam (including grading tests as a group) and will also be required to turn in a well designed, organized and formatted Materials and Processes Binder at the end of the term.

Required Texts/Readings

Textbooks (Required by 2nd class meeting)

Thompson, Rob. *Manufacturing Processes for Design Professionals* (2007, Thames & Hudson, ISBN 978-0500513750)

Lefteri, Chris. *Making It: Manufacturing Techniques for Product Design* (2012, Laurence King Publishers; 2 edition, ISBN 978-1856697491)

Thompson, Rob. *Prototyping and Low-Volume Production (The Manufacturing Guides)* (2011, Thames & Hudson, ISBN 978-0500289181)

Other Recommended Readings

500 Chairs: Celebrating Traditional & Innovative Designs (500 Series) Publisher: Lark Crafts (May 6, 2008) ISBN-13: 978-1579908720

1000 Chairs (Taschen 25). Charlotte Fiell (Author). Publisher: Taschen; 25th edition (April 1, 2005). ISBN-13: 978-3822841037

Fifty Chairs That Changed the World. Design Museum. Author. Publisher: Conran (April 5, 2010). ISBN-13: 978-184091540

How To Design a Chair. Design Museum (Author). Publisher: Conran (November 15, 2010). ISBN-13: 978-1840915464

Product and Furniture Design (The Manufacturing Guides). Rob Thompson (Author). Publisher: Thames & Hudson (April 1, 2011). ISBN-13: 978-0500289198

Materials and Design, Second Edition: The Art and Science of Material Selection in Product Design. Publisher: Butterworth-Heinemann; 2 edition (October 26, 2009). ISBN-13: 978-1856174978

Materials for Inspirational Design. Chris Lefteri (Author). Publisher: RotoVision (January 1, 2007). ISBN-13: 978-2940361502

Plastics 2 (Materials for Inspirational Design). Chris Lefteri. (Author). Publisher:RotoVision (March 1, 2006). ISBN-13: 978-2940361069

Wood (Materials for Inspirational Design). Chris Lefteri (Author). Publisher: RotoVision (March 1, 2005). ISBN-13: 978-2880468125

Glass (Materials for Inspirational Design). Chris Lefteri (Author). Publisher: Rockport Publishers; 1St Edition edition (September 2002). ISBN-13: 978-2880465698

Ceramics (Materials for Inspirational Design). Chris Lefteri (Author). Publisher: RotoVision (June 1, 2003). ISBN-13: 978-2880466688

Transmaterial 3: A Catalog of Materials that Redefine our Physical Environment. Blaine Brownell (Editor). Publisher: Princeton Architectural Press (February 3, 2010). ISBN-13: 978-1568988931

Graphics and Packaging Production (The Manufacturing Guides). Rob Thompson (Author). Publisher: Thames & Hudson; 1 edition (May 1, 2012). ISBN-13: 978-0500289884

Industrial Design: Materials and Manufacturing. Jim Lesko (Author). Publisher: Wiley. (August 11, 2011). ISBN-13: 978-0471297697

Industrial Design: Materials and Manufacturing Guide. Jim Lesko (Author). Publisher:Wiley; 2 edition (December 14, 2007. ISBN-13: 978-0470055380

Manufacturing Processes Reference Guide. Dell K Allen (Author), Robert H Todd (Author). Publisher: Industrial Press, Inc.; 1st edition (January 1, 1994), ISBN-13: 978-0831130497

Materials Selection in Mechanical Design, Fourth Edition. Michael F. Ashby (Author). Publisher: Butterworth-Heinemann; 4 edition (October 5, 2010). ISBN-13: 978-1856176637

Industrial Design Techniques and Materials. Raymond Guidot (Editor), Jean-Baptiste Toulard (Contributor), Jean Grenier (Contributor), Jean-Jacques Salomon (Contributor). Publisher: Flammarion (September 5, 2006). ASIN: B005X4FBUW

Manufacturing Processes for Engineering Materials (5th Edition). Serope Kalpakjian (Author), Steven Schmid (Author). Publisher: Prentice Hall; 5 edition (July 27, 2007). ISBN-13: 978-0132272711

Machinery's Handbook 29th Edition - Toolbox. Erik Oberg (Author). Publisher: Industrial Press; 29 edition (January 2, 2012). ISBN-13: 978-0831129002

Shop Test

The Department of Design requires that Industrial Design students attend and pass the shop safety orientation at least once each year. You will view the video in your DSID 31 class and then you will have time to review it again on your own as it is posted online (<http://www.sjsu.edu/atn/services/webcasting/events/shopysafety.html>). The shop test date will be announced the first day of class. That will be the only date that you will be able to take the shop test for the DSID 31 course so make sure you have studied up and paid your shop test fee at the bursars office before that date. You must provide proof of enrollment and the original receipt from the bursar's office that you have paid the required \$20 shop fee to fund #62089 prior to taking the test. Please talk with your DSID 31 instructor if you have any questions.

Library Liaison

Elkin, Aliza

Email: aliza.elkin@sjsu.edu

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 only with the instructor's 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, tablets, and even laptops can be disruptive and inconsiderate to your classmates and the instructor. Some of these devices may be used in this class and but should be disabled and turned off during times they are not being used. If a device is to be used for a class activity the instructor will inform you in advance. ***Phones for personal use 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.

Students are expected to leave the classroom in a clean condition at the end of each class meeting so that the next class has an organized, clean room waiting for them.

Assignments and Grading Policy

Students will be engaged in demos and practice sessions during class meeting times and they will be assessed on engagement in those activities in their Participation grade (LO 8). Students will have homework assignments to do outside of class (up to 12 hours per week) that include, sketching in their sketchbook documenting their 3D design concept development (LO 1-6). Students will be required to turn in a mid-term Portfolio of all work assigned and completed to date, along with their sketchbook (LO 7). They will be required to turn in their final Portfolio of work, along with their final sketchbook on the last day of class (LO 7). Grading will follow the standard SJSU A-F system.

A+, A, A- / 100+ - 91% / Excellent
 B+, B, B- / 90 - 81% / Above Average
 C+, C, C- / 80-71% / Average
 D / 70-61% / Below Average
 F / Below 61% / Failure

Grading is weighted as follows:

A1 – A14 (LO1-5)	10%
A15 – A18 (LO1-5)	10%
A19 – A24 (LO1-5)	10%
A25 (LO1-5)	20%
Midterm Portfolio (LO6-7)	20%
Final Portfolio (LO6-7)	20%
Class Participation (LO8)	10%

All assignments are due on time. ***No late work is accepted.*** Project work for critiques must be complete in order to receive in class feedback. Any project assignments may be redone for a better grade, but only when the assignment was turned in *complete* and *on time* when it was originally due. Extra credit is not possible in this course as the workload is significant enough. A passing grade (for receiving university credit for the requirement) in this course is a D-, however, D- project work will usually not pass the DSID 32A Portfolio Project 1 course. The Participation Grade in this course will be assessed through your engagement in Work/Practice sessions, class discussions and critiques each week. Actively engaging and exhibiting lifelong learning skills during class are the mode by which participation is assessed.

University Policies

Academic integrity

SJSU's Office of Graduate and Undergraduate Programs maintains university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. You may find all syllabus related University Policies and resources information listed on [GUP's Syllabus Information Web Page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>.

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](http://www.sjsu.edu/at/asc/about_asc) (http://www.sjsu.edu/at/asc/about_asc) 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](http://www.sjsu.edu/at/ms/reservations/) (<http://www.sjsu.edu/at/ms/reservations/>) located in IRC 112. These items include digital and VHS camcorders, VHS and Beta video players, 16mm, slide, overhead, DVD, CD, and audiotape players, sound systems, wireless microphones, projection screens and monitors.

Assignments and Grading Policy

Each week (subject to change, more complex projects may be afforded additional time with advance notice) the professor will lecture on a manufacturing process, and a field trip will be conducted or videos will be viewed. The professor will also introduce materials, finishing, and joining processes related to that manufacturing process. Students will then complete an assignment. Typically this assignment will be the design of a chair in a particular manufacturing process, and in a particular material. The students will then present their chair design and provide an example of that material and manufacturing process. A physical example is presented, but not required. Each assignment must contain the following pages/components:

- 1 Cover page, including assignment name, student name, professor name, and photos of products manufactured in this process (prefer student taken photos)
- 2 “1-pager” describing the assigned manufacturing process in text form
- 3 “1-pager” describing the assigned material (text and photos)
- 4 Images/sketches/text describing the manufacturing process, rules & guidelines, and equipment (prefer hand-drawn)
- 5 Design concepts/thumbnailed sketches with notes and details (1 page minimum)
- 6 Scale, dimensioned, hand-drawn orthographic view mechanical drawings (3 views minimum. Assembly drawings, and each part individually)*
- 7 Exploded view with call-outs, and BOM with all parts (including fasteners)*
- 8 Hand-drawn design details: section views, full-scale details, manufacturing notes, wall thickness, draft, fillets and radii, etc. No 2D or 3D CAD*
- 9 Sketches describing production tooling, jigs, fixtures, finishing operations, etc.
- 10 Perspective view sketches with color/shading that effectively describe the form and details, including the typical view, plus rear and underside (2 views minimum, hand-drawn/digitizer and hand-rendered, or digital rendered, No 3D CAD)

* Most important items

Students will be engaged in lectures, project presentations, sample presentations, and field trips during class meeting times and they will be assessed on engagement in those activities in their Participation grade (LO 8). Students will have homework assignments to do outside of class (up to 12 hours per week) that include reading, sketching, and research (LO 1-6). They will be required to turn in their final Materials and Processes Binder, the last day of class (LO 7). The final exam will be held on the second to last day of class, and graded by peers on the last class date. Grading will follow the standard SJSU A-F system.

A+, A, A- / 100+ - 91% / Excellent
 B+, B, B- / 90 – 81% / Above Average
 C+, C, C- / 80-71% / Average
 D / 70-61% / Below Average
 F / Below 61% / Failure

Grading is weighted as follows:

Assignments - 12 (LO 1-6): 60%

Participation (LO 8): 10%

Quizzes - 2 (LO 1-6): 10%

Final Materials and Processes Binder (LO 7): 15%

Final Exam (LO 1-9): 5%

The typical structure of each week will be as follows:

Day 1: Homework Due (Present/Review/Critique), Next Lecture/Homework Assignment

Day 2: Field Trip, or watch manufacturing videos and work in class, and/or Quiz

Grades for assignments will be divided evenly throughout the semester and receive equal credit. All assignments are due on time. **No late work is accepted.** No assignments will be accepted via email or Canvas. However, your final binder/portfolio will be reviewed at the end of the semester, and will be graded on completeness (so you should include all assignments, even those not previously turned in) and presentation quality. Therefore, all projects should be included in this binder. Extra credit is not possible in this course as the workload is significant enough. A passing grade for this course is a C. The Participation grade in this course will be assessed through your engagement in presentations, critiques, providing videos, and attending field trips. 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.

Learning Assistance Resource Center

The Learning Assistance Resource Center (LARC) is located in Room 600 in the Student Services Center. 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 the LARC website for more information at <http://www.sjsu.edu/larc/>.

SJSU Writing Center (Optional)

The SJSU Writing Center is located in Room 126 in Clark Hall. It is staffed by professional instructors and upper-division or 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. The Writing Center website is located at <http://www.sjsu.edu/writingcenter/about/staff/>.

Peer Mentor Center

The Peer Mentor Center is located on the 1st floor of Clark Hall in the Academic Success Center. The Peer Mentor Center 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 Mentor Center website is located at <http://www.sjsu.edu/muse/peermentor/>

DSID 41 / Materials and Processes 1, Fall 2015, Course Schedule

Schedule is subject to change with fair notice (one week) in class or via notice on CANVAS.

Table 1 Course Schedule

Week	Date	Topics, Readings, Demos, Assignments, Deadlines
1	W 8/22	<p>Lecture Topic: Introduction - Review of syllabus, introduction to materials and processes, course content, assignment structure, course expectations, project template, materials requirements, photos, Professor introduction, and field trip paperwork.</p> <p>Thompson Reading Assignment: Pages 10 – 19</p> <p>Lefteri Reading Assignment: Pages 6 – 9</p> <p>Assignment: Preparation - Develop project template, purchase course materials/books, define typical chair</p> <p>Deadline: None</p> <p>Field Trip or Videos: None</p> <p>Quiz: None</p> <p>Other: Reading Assignment - Mechanics of Materials D2L Handout, “1-pager” Template and Project Template on D2L</p>
2	M 8/27 W 8/29	<p>Lecture Topic: Materials and Mechanics of Materials</p> <p>Thompson Reading Assignment: Pages 418 - 490</p> <p>Lefteri Reading Assignment: None</p> <p>Assignment: Gather Plastic Samples</p> <p>Deadline: Project templates, course materials, books, chair ergonomics (LO 1-10)</p> <p>Field Trip or Videos: None</p> <p>Quiz: None</p> <p>Other: Guest Lecture –Mechanics of Materials</p>
3	M 9/5 W 9/10	<p>Lecture Topic: Plastic Fabrication</p> <p>Thompson Reading Assignment: None</p> <p>Lefteri Reading Assignment: None</p> <p>Assignment: Chair #1 – Plastic Fabricated Chair</p> <p>Deadline: Plastic parts (LO 1-10)</p> <p>Field Trip or Videos: Plastic Fab Shop</p> <p>Quiz: <u>Mechanics of Materials</u></p> <p>Other: Reading assignment - Plastic Fabrication D2L Handout, Class Activity -identifying plastics, Video Viewing - TBD</p>

4	M 9/10 W 9/12	<p>Lecture Topic: Machining Thompson Reading Assignment: Pages 182 - 189 Lefteri Reading Assignment: Pages 12 - 22 Assignment: Chair #2 – Machined Aluminum Chair Deadline: Chair #1 – Plastic Fabricated Chair (LO 1-10) Field Trip or Videos: Machine Shop Quiz: None Other: None</p>
5	M 9/17 W 9/19	<p>Lecture Topic: Sheet Metal Fabrication – Brake forming and Punching Thompson Reading Assignment: Pages 260 – 265, 148 - 153 Lefteri Reading Assignment: Pages 44 - 45 Assignment: Chair #3 – Brake Formed and Punched Sheet Metal Chair Deadline: Chair #2 – Machined Aluminum Chair (LO 1-10) Field Trip or Videos: Sheet Metal Fab Shop Quiz: None Other: None</p>
6	M 9/24 W 9/26	<p>Lecture Topic: Sheet Metal Fabrication – Laser Cutting, Roll Forming, Tube Bending Thompson Reading Assignment: Pages 248 – 253, 110 – 113, 98 - 103 Lefteri Reading Assignment: Pages 86 - 87 Assignment: Chair #4 – Laser Cut, Roll Formed, Welded, Bent Tube Sheet Metal Chair Deadline: Chair #3 – Brake Formed and Punched Sheet Metal Chair (LO 1-10) Field Trip or Videos: Sheet Metal Fab Shop Quiz: None Other: Reading Assignment - Mechanics of Materials D2L Handout</p>
7	M 10/1 W 10/3	<p>Lecture Topic: Extrusion Thompson Reading Assignment: None Lefteri Reading Assignment: Pages 78 - 83 Assignment: Chair #5 – Extruded Slit Chair Deadline: Chair #4 – Laser Cut, Roll Formed, Welded, Bent Tube Sheet Metal Chair (LO 1-10) Field Trip or Videos: None Quiz: None Other: Reading Assignment - Mechanics of Materials D2L Handout, Video Viewing – Extrusion TBD</p>
8	M 10/8 W 10/10	<p>Lecture Topic: Thermoforming / Pressure Forming Thompson Reading Assignment: Pages 30 - 35 Lefteri Reading Assignment: Pages 53 - 56 Assignment: Chair #6 – Pressure Formed Chair</p>

		<p>Deadline: Chair #5 – Extruded Slat Chair (LO 1-10) Field Trip or Videos: Pressure Former Quiz: None Other: None</p>
9	<p>M 10/15 W 10/17</p>	<p>Lecture Topic: Sand Casting (and Die Casting, Investment Casting) Thompson Reading Assignment: Pages 120 - 135 Lefteri Reading Assignment: Pages 202 - 203 Assignment: Chair #7 – Sand Cast Aluminum Chair (LO 1-10) Deadline: Chair #6 – Pressure Formed Chair Field Trip or Videos: Aluminum Foundry, and Design2Part Show (3/21, 3/22) Quiz: Mid-term: Metal (primarily Sheet Metal)</p>
10	<p>M 10/22 W 10/24</p>	<p>Lecture Topic: Rotational Molding Thompson Reading Assignment: Pages 36 - 39 Lefteri Reading Assignment: Pages 119 - 121 Assignment: Chair #8 - Rotational Molded Chair Deadline: Chair #7 – Sand Cast Aluminum Chair (LO 1-10) Field Trip or Videos: None Quiz: None Mid-Term: Mid-term Binder Review Other: Video Viewing – Rotational Molding</p>
11	<p>M 10/29 W 10/31</p>	<p>Lecture Topic: Reaction Injection Molding (RIM) Thompson Reading Assignment: Pages 64 - 67 Lefteri Reading Assignment: Pages 181 - 184 Assignment: Chair #9 - Reaction Injection Molded (RIM) Chair Deadline: Chair #8 - Rotational Molded Chair (LO 1-10) Field Trip or Videos: Reaction Injection Molder Quiz: None Other: None</p>
12	<p>M 11/5 W 11/7</p>	<p>Lecture Topic: Injection Molding I Thompson Reading Assignment: Pages 50 - 63 Lefteri Reading Assignment: Pages 178 - 180 Assignment: Chair #10 – Evaluation of Plastic Patio Chair Deadline: Chair #9 - Reaction Injection Molded (RIM) Chair (LO 1-10) Field Trip or Videos: Injection Molder Quiz: None Other: None</p>
13	<p>M 11/12 W 11/14</p>	<p>Lecture Topic: Injection Molding II Thompson Reading Assignment: None</p>

		<p>Lefteri Reading Assignment: None Assignment: Chair #11 - Injection Molded Chair Deadline: Chair #10 – Evaluation of Plastic Patio Chair (LO 1-10)</p>
14	<p>M 11/19 W 11/21 (Holiday, no class)</p>	<p>Lecture Topic: Review of Materials and Processes Thompson Reading Assignment: None Lefteri Reading Assignment: None Assignment: Chair #11 - Inj Molded Chair (LO 1-10) – Part 2 Deadline: Chair #11 - Inj Molded Chair (LO 1-10) – Part 1 Field Trip or Videos: None Quiz: None</p>
15	<p>M 11/26 W 11/28</p>	<p>Lecture Topic: Review of Materials and Processes Thompson Reading Assignment: None Lefteri Reading Assignment: None Assignment: Digital File for Binder Deadline: Chair #11 - Inj Molded Chair (LO 1-10) – Part 2 Field Trip or Videos: None Quiz: Final Exam: Plastics (Primarily Injection Molding)</p>
16	<p>M 12/3 W 12/5</p>	<p>Lecture Topic: Review of Materials and Processes Thompson Reading Assignment: None Lefteri Reading Assignment: None Assignment: Digital File for Binder Deadline: Amnesty Project Field Trip or Videos: None Quiz: Grade Plastics quiz in class Other: Final Materials and Processes Binder (LO 1-10) Review</p>
17	<p>M 12/10</p>	<p>Lecture Topic: Review of Materials and Processes Thompson Reading Assignment: None Lefteri Reading Assignment: None Assignment: TBD Deadline: Final Binder Field Trip or Videos: None Quiz: TBD Other: TBD</p>
Final Exam	<p>W 12/13 9:45 AM – 12:00 PM Make up exam date if needed is TBD</p>	<p>Lecture Topic: 41 Post Mortem, Introduction to DSID 143 Thompson Reading Assignment: None Lefteri Reading Assignment: None Assignment: None Deadline: Digital Copy of Materials and Processes Binder Field Trip or Videos: None</p>

		Quiz: None Other: None
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