San José State University
Department of Design / Industrial Design Program
DSID123, Intermediate Industrial Design, Section 01, Spring 2016

Instructor: Gerald Skulley
Office Location: Art 113
Telephone: (408) 924-XXXX
Email: gerald.skulley@sjsu.edu
Office Hours: 5:30-6:00pm Tues by appointment (Please give 24hrs notice)
6:00-7:00pm Mondays drop-in (no appt. necessary)
Class Days/Time: Tues Thursday 7:00 pm--9:50pm
Classroom: Industrial Studies # 118
Prerequisites: DsID 21, DsID 22, DsID 31, DsID 32, DsID 32A credit; Phys 1; ArtH 70B
Course Fees: A percentage of your fees are used in the maintenance of the prototyping facility equipment. Remaining fees will be used to purchase materials for the ZPrinter. 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 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 will also be managed through the class CANVAS site. To set email forwarding, go to “Preferences” and click the “Email” tab to manage your options. Under “Forwarding Options”, check the box “Forward incoming messages to an alternate email account.” Type your alternate Email Address in the box and save your preferences at the bottom. This should 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 small scale product design. It will stress the introduction and application of knowledge 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 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. (pay close attention to week 6 & 7 in your course schedule). You will be expected to create designs that serve a variety of design priorities and constraints to successfully complete this class.

Projects undertaken in this course will focus on the domestic environment and ways in which design can improve product experiences. Students will engage in a process that includes deep investigation and research of users, trends, technology, materials, ergonomics, brand, and innovation. Projects will include a short research and ethnography project, a project focused on the design of a housewares product, and entry of that product into the 2012 International Housewares Association Student Design Competition. Competition information and entry specifics can be found at: http://www.housewares.org/show/info/sdc/

Areas of focus for the housewares project include:
- Household small electric appliances
- Personal Care and Home Healthcare products
- Tableware, Serving Products and Accessories
- Cook and Bakeware
- Kitchenware
- Outdoor Products and Accessories
- Bath, Laundry, Closet
- Cleaning products
- Furniture
- Juvenile and Pet Products

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 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 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 solution.

**LO4**: Undertake different types of research (competitive product research, ethnographic research, technology research), information gathering and analysis.

**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**: Confidently enter future design competitions by demonstrating the ability to clearly communicate their design concepts in the required competition entry.

**LO11**: 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 $800 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 ($150)

Required Reading List
McClusky, John F.; Managing Complex Problems in Design and Design Education; Eastman National IDSA Education Conference Proceedings, 2004; pp141-148


These and other handouts 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. These are all books that are recommended as part of any Industrial Designer’s permanent library and will be either assigned or referenced in future DSID courses. These books are:


**Library Liaison**

Rebecca Kohn, Associate Librarian for Design Department  
Email: Rebecca.Kohn@sjsu.edu  
Phone: 408.808-2007  

**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 life long 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 displayed on the table at the center of the room 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. Arriving late to class without prior arrangement and approval from the professor is considered disruptive. 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. 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 so that he/she may respond and inform the student in a timely manner. 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.

Cell phones, organizers, laptops are also disruptive and inconsiderate to your classmates and instructors. **Phones are NOT permitted in this class** and you will be asked to turn off and surrender your phone at the start of each class. No unauthorized audio or video recording of the class is allowed. If you disrupt or withdraw from class activities due to your inability to silence your devices, it will count against the participation portion of
your final grade (LO 11). If personal issues (family, medical, etc) require you to leave your phone on, you may do so by making arrangements with the instructor in advance. With this in mind, your instructor may need to answer his phone during class due to professional demands or university business but will try to keep this to a minimum during the semester.

**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 section at http://info.sjsu.edu/static/catalog/policies.html. Add/drop deadlines can be found on the current academic calendar web page located at http://www.sjsu.edu/academic_programs/calendars/academic_calendar/. The Late Drop 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 at 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.

Perceived class participation (including “professional behavior” which includes regular attendance) in the classroom will help adjust grades up or down and will be approximately 10% of your grade.

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:
Assignment 1 & 2: Pet peeves report and sketches (LO 1,2 & 4): 5%
Assignment 3: Visual Anthropology report, sketches and mockups (LO 1,2 & 4): 5%
Assignment 4: Walk the Aisles report, sketches and mockups
Assignment 5: Opportunity Maps (LO 1,2 & 4): 5%
Assignment 6: New constraint simulations, task analyses, sketches and mockups (LO 1,2 & 4): 5%
Assignment 7: Ergonomic Assessments, sketches and mockups (LO 1,2 & 4): 5%
Midterm sketch portfolio (include mockup images) (LO 1,2 & 4): 15%
Midterm Presentation (LO 1-11) 15%
Final Model (LO 1-11) 15%
Final Design and Final Presentation (LO 1-11) 15%
Class Participation (LO 11): 10%

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 Definition of Academic Dishonesty

Cheating

San José State University defines cheating as the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating includes:

Copying, in part or in whole, from another’s test or other evaluation instrument including homework assignments, worksheets, lab reports, essays, summaries, quizzes, etc.;
Submitting work previously graded in another course without prior approval by the course instructor or by departmental policy;

Submitting work simultaneously presented in two courses without prior approval by both course instructors or by the department policies of both departments;

Using or consulting sources, tools or materials prohibited by the instructor prior to, or during an examination;

Altering or interfering with the grading process;

Sitting for an examination by a surrogate, or as a surrogate;

Any other act committed by a student in the course of their academic work that defrauds or misrepresents, including aiding others in any of the actions defined above.

**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/
### Table 1 Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Demos, Assignments, Deadlines</th>
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<tbody>
<tr>
<td>1</td>
<td>Th 1/28</td>
<td>Review of syllabus, course content, assignment structure, course expectations, materials requirements</td>
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<td>In-class sketching exercise</td>
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<td>Assignment 1 &amp; 2: Read article and document Pet Peeves (LO 1,2&amp;4)</td>
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<td>2</td>
<td>Tu 2/2</td>
<td>Shop test for those who need it (Have Burser’s Office receipt for $20 with you).</td>
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<td></td>
<td>Discuss article</td>
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<td>Brainstorming exercise</td>
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<td></td>
<td>Th 2/4</td>
<td>Class discussion: Pet Peeves (have your personal Pet peeves assignment uploaded to CANVAS site by 11am today)</td>
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<td>(LO 1,2&amp;4)</td>
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<td>Critique: 10+ concept sketches</td>
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<td>Assignment 3: Visual Anthropology (LO 1,2&amp;4)</td>
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<tr>
<td>3</td>
<td>Tu 2/9</td>
<td>Critique: 20+ new concept sketches inspired by your Pet Peeves or the pet peeves of others.</td>
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<td>Th 2/11</td>
<td>Class discussion: Pet Peeves of others (have your Pet peeves of others assignment uploaded to CANVAS site by 11am today) (LO 1,2&amp;4)</td>
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<td>4</td>
<td>Tu 2/16</td>
<td>Class Brainstorming</td>
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<td></td>
<td>Th 2/16</td>
<td>Critique: 20+ new concepts inspired by the Pet Peeves of others (LO 1-11)</td>
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<td>5</td>
<td>Tu 2/23</td>
<td>Class Discussion: Visual Anthropology images</td>
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<td></td>
<td>Th 2/25</td>
<td>Class Brainstorming exercise</td>
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<td>Assignment 4: Walk the Aisles (LO 1,2&amp;4)</td>
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<td>Critique: 20+ new concepts inspired by visual anthropology images</td>
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<td>Assignment 5: Opportunity Maps (LO 1,2&amp;4)</td>
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<tr>
<td>6</td>
<td>Tu 3/1</td>
<td>Class discussion: Key findings from your walk of the aisles (have reports uploaded to D2L site by 9pm Sunday, Sept. 26)</td>
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</table>
|      | Th 3/3     | Class discussion: Assignment 5: Initial Opportunity Maps (upload at
<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Demos, Assignments, Deadlines</th>
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<tr>
<td></td>
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<td>least one Opportunity map to the CANVAS site by 11am) Assign and discuss: New consumer constraints</td>
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<tr>
<td>7</td>
<td>Tu 3/8</td>
<td><strong>Critique: Midterm Presentation – “Pitch” your Top three concepts with Revised Opportunity Maps (have presentations and revised Opportunity Maps uploaded in .pdf format to D2L site by 9pm Sunday, October 3. Bring printed copies for class critique.)</strong> (LO 1-11)</td>
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<td></td>
<td>Th 3/10</td>
<td>Class discussion: Assignment 6: New constraints/opportunities Assign Simulation (LO 1,2&amp;4) <strong>Midterm Sketch Portfolio Due (120 sketch pages minimum)</strong> (LO 1-10)</td>
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<td>8</td>
<td>Tu 3/15</td>
<td>Class discussion: Task analysis from simulations Class brainstorming</td>
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<td></td>
<td>Th 3/17</td>
<td><strong>Critique: 20+ new or revised concepts based on new constraint simulations</strong> Assignment 7: Ergonomic Analysis (LO 1,2&amp;4)</td>
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<td>9</td>
<td>Tu 3/22</td>
<td>Work in class: Ergonomic Analysis, sketches and Functional Mockups</td>
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<td>Th 3/24</td>
<td>One-on-one consultations Work in Class</td>
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<td>10</td>
<td>Tu 3/29</td>
<td><strong>Spring Break</strong></td>
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<td>Th 3/31</td>
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<tr>
<td>11</td>
<td>Tu 4/5</td>
<td><strong>Critique: functional mockups</strong> (3 minimum, 5 or more recommended) + sketches, ergonomics and rough orthographics (LO 1-10) (Upload Assignment 7: Ergonomic Analysis and images of your functional mockups to the class CANVAS by 11am)</td>
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<td>Th 4/7</td>
<td>One-on-one consultations Work in Class</td>
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<tr>
<td>12</td>
<td>Tu 4/12</td>
<td><strong>Critique: Final, dimensioned orthographic projection drawings with cross sections as needed due.</strong> (LO 1-10) Upload scanned or photographed drawings to the CANVAS site by 11am Sunday</td>
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<td>Th 4/14</td>
<td>Begin Final Model Building Bring storyboard of modeling plan at the beginning of class.</td>
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<td>Week</td>
<td>Date</td>
<td>Topics, Readings, Demos, Assignments, Deadlines</td>
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<td>13</td>
<td>Tu 4/19</td>
<td>Class Discussion: Color tests</td>
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<td>Final Model Building</td>
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<td></td>
<td>Th 4/21</td>
<td>Final Model Building</td>
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<td>14</td>
<td>Tu 4/26</td>
<td>Critique: Final Models (LO 1-10)</td>
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<td>Have your completed appearance model in class for critique.</td>
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<td>Th 4/28</td>
<td>Final documentation/photo shoot</td>
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<tr>
<td>15</td>
<td>Tu 5/3</td>
<td>Final documentation/photo shoot</td>
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<tr>
<td></td>
<td>Th 5/5</td>
<td>Competition entry (upload your first draft of your competition entry to the CANVAS site by 11am)</td>
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<tr>
<td>16</td>
<td>Tu 5/10</td>
<td>Final Critique: Housewares Competition</td>
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<td>Everyone must have your presentation posted on the D2L site by 6:00pm Sunday, December 4. Keep in mind that it can take up to an hour or more to upload (LO 1-11)</td>
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<tr>
<td></td>
<td>Th 5/12</td>
<td>Final Critique: Housewares Competition</td>
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<tr>
<td>17</td>
<td>TBA</td>
<td>DSID123A Reviews</td>
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