Instructor: David Bilenkey, B.I.D.
Office: Room 446 AP
E-mail: davidbilenkey@cunet.carleton.ca
Office Hours: Studio hours are designated for lectures, discussions and act as office hours. If there is an important concern, please send me an email.
Course Time and Location: Monday 9:35 am ~11:25 am & 12:35 pm ~16:25 pm (AP 448B)

Course Description
Principles of drawing and sketching used in the design process. Project topics include: sketching as a tool for problem definition; idea exploration and form development; rendering techniques and the communication of design concepts; basic physical modeling techniques as a complement to sketching and drawing. Prerequisite (s): IDES 1001 and IDES 1301, or permission of the School of Industrial Design.

Learning Outcomes:
By the end of this course, students will be able to:

1. Apply freehand orthographic and perspective sketching competency including construction, line weight management, shading, and shadows to effectively demonstrate a working knowledge of design sketch.
2. Describe theoretical foundations behind design sketching conventions such as perspective, foreshortening, light and shade, orthographic projection, ground figure relationships, viewpoint and orientation, intentional ambiguity.
3. Explore and identify material selection through the rendering conventions including matt vs. glossy plastic finishes, metals, wood, glass, and transparency.
4. Execute group ideation process through sketches and prototypes as a channel for effective communication and visualization.
5. Analyze product components and user interaction to find design opportunity.
6. Explore formal issues regarding composition and proportion through explorative hand sketching and model making in low fidelity materials simultaneously.
7. Use sketches as a tool to facilitate the iterative design process to develop multiple design alternatives and successive ideas and proposals.
8. Explain how drawing fidelity evolves through explorative, explanatory and persuasive sketching for concept development and specification.
9. Perform ideation and critical thinking simultaneously for the design process.
10. Show contextual information (e.g., people and environments) through hand sketching as well as electronic means.
11. Import and manipulate hand sketches in Photoshop.
12. Use professional terminology regarding sketching and drawing conventions.
Course Format & Approach
1) By the end of this semester, students should feel confident to use sketches as a medium to generate, visualize and communicate their design ideas with others. Basic principle and foundational knowledge about design sketches are introduced, and various exercises will be practiced.
2) The course consists of lecture content and studio practice. Consistent attendance and active participation in class are required and critical to complete this course. Note that those who do not attend classes are unlikely to achieve their full potential in this course.
3) Effective and efficient use of space and resources are also critical to your success. You are responsible for maintaining an inviting and respectful work environment. Remember that preparing the studio for the presentation of work completed for that week should be done before the instructor arrives. Work should lay out in a neat and organized way so that it can be seen and easily referenced for review and discussion.

Equipment and Lab Resources
- Photoshop (required).
- Camera and printer for photographing and printing models, hands, people.

Materials to Purchase
This is an initial list of supplies you will need for this course. We will update and add to this list when necessary.
1. Sketchbook: Mobile size to carry with you everywhere! Students to decide on preference (e.g., Moleskin, sketchbooks available from the lab). Sketchbook will be used to support work progress every week and reviewed during in-class consultations.
3. Paper: Letter size (11 x 8.5) bright white paper for drawing exercises is required.
4. Pens: Black ballpoint (fine), Fine liner pens, Sharpie, Verithin pencil
5. Prisma color pencils (white and black). Do not buy a big set.
6. Markers: a set of Cool Gray marker, plus 2-3 color markers. Suggest multi-tip professional brands such as Shinhan, Alpha, Prismacolor, Zig, Touch or Copic.
7. Extra: Template (Circle, Ellipse), Steel ruler, Cutting mat, etc.

Recommended reading

Grading
Students will be graded on the quality of work from the studio exercises and the quality and successful completion of the studies and assigned project. Class attendance and participation are important to the learning experience. Grades represent results, not level of effort. However, it is highly unusual for a student to earn a superior grade without a high level of effort. The grading structure is outlined below:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Basic drawing exercise 1,2,3 &amp; 4</td>
<td>20%</td>
</tr>
<tr>
<td>Project A (Mondrian composition in 3D)</td>
<td>40%</td>
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<tr>
<td>Project B (Car air fresher)</td>
<td>40%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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*Note that to pass the course you are required to complete ALL projects and deliverables.*
## Course schedule

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Lecture</th>
<th>Studio</th>
<th>Homework</th>
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</thead>
<tbody>
<tr>
<td>Week 1 Sep. 10</td>
<td>Introduction to the course The principle of the Design sketch</td>
<td>Line drawing exercise 1: Lines (Long &amp; straight, Thin &amp; thick)</td>
<td>Line &amp; Tone (5%)</td>
</tr>
<tr>
<td>Week 2 Sep. 17</td>
<td>Types of the sketch in product design</td>
<td>Line drawing exercise 2: Shapes (Circles, Ellipse, Squares…)</td>
<td>Line &amp; Illusion (5%)</td>
</tr>
<tr>
<td>Week 3 Sep. 24</td>
<td>Principle of Perspectives Orthographic Projection</td>
<td>Line drawing exercise 3: Volume (Cubes &amp; Cylinders)</td>
<td>Cube drawings (5%)</td>
</tr>
<tr>
<td>Week 4 Oct. 1</td>
<td>Markers for sketching Introduce Project A (40%): Mondrian composition in 3D</td>
<td>Product sketching exercise 4: Perspective &amp; Orthographic Projection</td>
<td>Sketching 3D objects (e.g., toys) (5%)</td>
</tr>
<tr>
<td>Week 5 Oct. 8</td>
<td>Thanksgiving no lecture</td>
<td></td>
<td>Sketches in 2D -&gt; select the best 3 (marker use) Three ideas in 2 dimensions in details.</td>
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<tr>
<td>Week 6 Oct. 15</td>
<td>Individual design consultations</td>
<td>Sketch and Build prototypes</td>
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<tr>
<td>Oct. 22</td>
<td>Fall break… Keep working on your ideas….</td>
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<tr>
<td>Week 7 Oct. 29</td>
<td>Individual design consultation</td>
<td>Build a final design in 3D</td>
<td>Project 1 Final deliverables</td>
</tr>
<tr>
<td>Week 8 Nov. 5</td>
<td><strong>Project A final review</strong> Introduce Project B (40%): Design of a car air fresher</td>
<td>Design research &amp; position map to understand the market and users (team works).</td>
<td>Idea sketches</td>
</tr>
<tr>
<td>Week 9 Nov. 12</td>
<td>Team consultation</td>
<td>Idea exploration</td>
<td>Modelling Prototypes/ideas</td>
</tr>
<tr>
<td>Week 10 Nov. 19</td>
<td>Matt vs. glossy plastic, metals, wood, glass, and transparency. (Demo/video)</td>
<td>Matt vs. glossy plastic finishes, metals, wood, glass, and transparency. (Practice)</td>
<td>Project B Explanatory sketches with details</td>
</tr>
<tr>
<td>Week 11 Nov. 26</td>
<td>Digital sketch in Photoshop (Demo)</td>
<td>Digital sketch in Photoshop (Practice)</td>
<td>Project B Detail design sketches</td>
</tr>
<tr>
<td>Week 12a Dec. 5</td>
<td>Work on the final deliverables</td>
<td>Work on the final deliverables</td>
<td>Project B Work on the final deliverables</td>
</tr>
<tr>
<td>Week 12b Dec. 7</td>
<td>Final Review</td>
<td>Final review</td>
<td>Sleep</td>
</tr>
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### Individual/Group Work
Courses may include various combinations of individual and group work. Students must demonstrate individual aptitude. It is important where collaborative work is undertaken that students be able to clearly demonstrate that individual contribution has been made. Where the evaluation for individual work is below a passing grade, that grade will be awarded for the course.

### Review Attendance
Attendance at scheduled SID reviews is mandatory. These are equivalent to exams in IDES courses when indicated in the course outline. Failure to attend will result in a grade of F. If you are not able to attend a review, you are required to call the General Office (613-520-5672) and/or send an email to id@carleton.ca to leave a message in advance. A comprehensive medical certificate or other documentation to substantiate the absence must be submitted as soon as possible after the review. The documentation must state the date of illness onset, the expected date of recovery, and the extent to which the student is incapacitated. The student is also required to set up a meeting with the instructor as soon as he or she is well enough to discuss and schedule an
alternative date. Any student in the review should submit materials for presentation and present as scheduled. In addition, a student who does not remain for the complete review session, who does not present as scheduled, or who arrives late for the review, without approval from the instructor, will receive a 10% grade reduction for that review.

• **Late Submission of Deliverables**

  **Course Deliverables for reviews and other due dates**

  All deliverables submitted late will accrue a 10% per day deduction from the determined grade, to a maximum of 3 days, from the original deadline time and date. Failure to submit within 3 days, without approval from the instructor, will result in a grade of F.

• **Participation and Professionalism**

  Active participation and professional conduct are particularly important in studio courses and will be evaluated. At the same time, when the student’s work is reviewed at the end of the course, an evaluation will be made based on one or more of the following: in class discussion; consultations with instructors; and work ethic. However, none of these evaluations will be used to raise an overall failing grade, to a passing one, based on the quality of the work.

**STUDENT CONSIDERATIONS AND RESPONSIBILITIES**

• **Academic Accommodation (Equity Services)**

  You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

  • *Pregnancy obligation:* write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit: [http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

  • *Religious obligation:* write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit: [http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

  • *Academic Accommodations for Students with Disabilities:* The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your [Letter of Accommodation](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf) at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). **Requests made within two weeks will be reviewed on a case-by-case basis.** After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made. Please consult the PMC website ([www.carleton.ca/pmc](http://www.carleton.ca/pmc)) for the deadline to request accommodations for the formally-scheduled exam (if applicable).

• **Instructional Offenses / Plagiarism**

  The regulations of the university require that we bring to your attention regulations on Instructional Offenses, descriptions of which can be found in the current Academic Integrity Policy available on the Student Affairs website. The policy governs the academic behavior of students. At the same time, it seems that students do not always understand the meaning of plagiarism and how to avoid it. In industrial design, ideas and concepts come from a multitude of sources to be modified and utilized in the design and development process. The student should reference sources appropriately.

• **Student Responsibility (studio courses)**

  The student is responsible for knowing the content of this course outline, the schedule of classes, assignments, and reviews; and material covered during any absence from scheduled classes.
Unless otherwise arranged, the class will meet during regularly scheduled studio hours. These meetings are mandatory; important issues and questions will be raised, and announcements might be made. Everyone is expected to be based in studio and to work during scheduled hours. The studio should be considered a professional design studio environment. Because of the special involvement of external professionals, scheduling changes for guest lectures, presentations, and reviews may occur at short notice; students should stay informed regularly.

- **Changes to the Course Outline**
The course outline may be subject to change in the event of extenuating circumstances.