San José State University
Design Department
ANI 012, Light & Optics, Fall 2015

Course and Contact Information

Instructor:    John Clapp
Office Location:  ART 219
Telephone:    (408) (924-4244)
Email:        jdclapp@gmail.com
Office Hours:  T/TH, 11am-12pm by appointment. Email for appointment.
Class Days/Time:  1: M/W: 8:30a-11:20a, 2: M/W 12:30p-3:20, 3: T/TH: 8a-10:50
Classroom:     ART 243

Prerequisites:

Course Description

An investigation into the physical properties of light and optics relevant to the visualization of artwork for the screen arts industry. Prerequisites: Allowed declared Animation major only

Course Goals and Learning Outcomes

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

1. Articulately discuss their work in public and receive and respond to public criticism in a positive manner.
2. Render well in dry media without photographic reference.
3. Work competently with linear perspective, from imagination or within an existing environment to create convincing drawings that appear to possess form and mass.
4. Learn to work in a team environment, both as a team member and as a team leader.
5. Self-evaluate their work, and their strengths and weaknesses as they relate to studying the visual arts.
Required Texts/Readings

Textbook

There is no required text for this course, however students are expected to consult various books, websites and blogs as needed to supplement their education.

Other Readings

All widely available in libraries and bookstores:

Perspective Drawing Handbook, Joseph D’Amelio

Rapid Viz, Ralph Elliston

Perspective Drawing, Ernest Watson

Imaginative Realism, James Gurney

Color & Light, James Gurney

Rendering in Pen & Ink, Arthur Guptill

Rendering in Pencil, Arthur Guptill

Other equipment / material requirements (optional)

See course supply list provided on first day of the semester.

Library Liaison (Optional)

For assistance in finding library resources, you may consult: http://libguides.sjsu.edu/animation

and/or contact MLK Librarian Rebecca Kohn, rebecca.kohn@sjsu.edu, or 408-808-2007. Her office is on the 4th floor of the King Library.

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in University Policy S12-3 at http://www.sjsu.edu/senate/docs/S12-3.pdf.

Light & Optics focuses on the professional and technical skills needed to create effective illustrations without the benefit of direct reference material. These skills are derived from an understanding of the physical properties of light and optics, including volumetric drawing, linear perspective, atmospheric perspective, and rendering techniques.

Graphite will be the primary medium used during the class. Emphasis will be placed on executing every assignment as described with a high degree of competence and accuracy. Failing to correctly follow the detailed instructions for each assignment will have a significant negative effect on your grade. There will be major projects each weekend during the semester in addition to daily homework between all classes. All projects will be held to strict standards and a student’s grade is dependent on how well they—and
their team—meet these standards within the deadlines given. During most class sessions, the class will be divided into teams.

During the semester, students will complete approximately 6-7 renderings of geometric solids (2-4% of final grade each), two multi-week renderings due weeks 12 and as a final project (approx. 20% of final grade), a class notebook (approx. 15% of final grade), as well as approximately 25-30 smaller assignments. (cumulatively approx. 18% of final grade.) In addition, there will be grades for classroom participation (class discussions and critiques) and peer evaluation grades. (approx. 14% and 15% respectively.) For more detailed information about classroom activities, please refer to the handouts distributed each week for each project. Each assignment is designed to progressively and cumulatively build towards the above-listed learning outcomes. All of the above is subject to change with fair notice.

Grading Policy

Students will be held accountable for meeting all deadlines with acceptable work. Directions given in class and for assignments must be followed accurately or grades will be lowered accordingly. Late work will not be excepted unless the instructor has given prior approval. Students are responsible for completing all work assigned during any absences, and absent students must make arrangements for their work to be turned in (on due date) by another student. There will be no extra credit assignments of any kind.

Class participation will be assessed and includes active engagement in critiques, intelligent questioning, peer mentoring, and proactive learning behavior.

Obviously, the quality of the work, both conceptually and its final execution, is the primary component of the grade; but as mentioned above, the student’s grade is also determined by their professional attitude, their conduct, their work ethic, and their ability to meet their deadlines and the educational challenges posed by the assignments. Above all, students are graded on the intelligence they demonstrate while they pursue, question, attempt, evaluate, struggle, succeed and/or fail at their assignments.

While it is possible to pass a class with a grade as low as a C-, students should be aware that maintaining a cumulative C average is required to complete the Animation/Illustration BFA degree. Students receiving grades of B- or lower should therefore be on notice that their work as completed is barely adequate to maintaining their degree status and better efforts are expected. They may want to consider pursuing another degree path.

Grades may be reviewed privately at any time by arranging a meeting with the instructor. If you want to know your grade—ask.

Each project will build the student's understanding of the topics covered in class during the week. Due to the sequential nature of the class and topic, the student is expected to show up on time, attend every session and complete each assignment within the deadlines given.

Classroom Protocol

All Animation/Illustration students are expected to conduct themselves in a professional manner at all times. Whether in class or working after hours, students must respect the facilities and fellow students and are expected to present themselves and their work in a clean professional manner. Students will be held accountable for both classroom participation and contributing to the creation of a positive atmosphere for education.
Classes and events are to be treated as business appointments and students are expected to be in attendance, fully prepared, and on time. Fully prepared means having all necessary materials needed to work on class projects, having prepared according to instructions, and having made significant progress on assignments from the previous class. Failure to accomplish any of the above will significantly lower your grade.

If an absence is unavoidable, students are expected to notify the instructor immediately, and contact their peers to both turn in work and stay current with class assignments they may have missed.

Cell phones should be turned off during class, and students should refrain from eating food others can smell. At the end of classes, students are expected to leave the classroom cleaner than they found it.

Finally, students should maintain an awareness of the safety of their surroundings, belongings, and classmates. In particular, when working in the building and entering or leaving after hours, students should accompany one another in the interest of safety or call the University Police for an escort. Report any suspicious persons or behavior to the University police at 408-924-2222 or by picking up a blue emergency phone.

University Policies

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 year calendars document on the Academic Calendars webpage at http://www.sjsu.edu/provost/services/academic_calendars/. 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/.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12-7, http://www.sjsu.edu/senate/docs/S12-7.pdf, requires students to obtain instructor’s permission to record the course and the following items to be included in the syllabus:

- “Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor’s permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material.”
  - It is suggested that the greensheet include the instructor’s process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
  - In classes where active participation of students or guests may be on the recording, permission of those students or guests should be obtained as well.
- “Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.”

With all of the above in mind, I (the instructor) hereby grant all of you permission to record my classes provided you adhere to the restrictions above.
Academic integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San Jose State University. The University Academic Integrity Policy S07-2 at http://www.sjsu.edu/senate/docs/S07-2.pdf 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.sjsu.edu/studentconduct/.

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 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at http://www.sjsu.edu/aec to establish a record of their disability.

Accommodation to Students' Religious Holidays

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14-7 at http://www.sjsu.edu/senate/docs/S14-7.pdf.

Student Technology Resources

Computer labs for student use are available in the Academic Success Center at http://www.sjsu.edu/at/asc/ located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. 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 DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

SJSU Counseling Services

The SJSU Counseling Services is located on the corner of 7th Street and San Fernando Street, in Room 201, Administration Building. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling Services website at http://www.sjsu.edu/counseling.
### Course Schedule

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<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics, Readings, Assignments, Deadlines</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td><strong>Intro: Red Flag</strong>&lt;br&gt;Basic introductory material, first naïve cube rendering, intro teams, passport photos, “What Do You Want to Know?”, cube research, intro to sketching cubes.</td>
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<tr>
<td>2</td>
<td></td>
<td><strong>First Efforts, Quiz + First Sketch Cubes</strong>&lt;br&gt;“What Went Wrong”, Quiz, Sketching Cubes: “The Claw”, First Cube Demo and Critique of first 5 cubes.</td>
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<tr>
<td>2</td>
<td></td>
<td><strong>Graphite Demo &amp; First Critiques (Match Squares and Sketch Cubes)</strong>&lt;br&gt;First real critiques. (Match Squares Project and 20 Sketched Cubes) Intro to Graphite.</td>
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<tr>
<td>3</td>
<td></td>
<td><strong>Intro to Mechanical Cubes, Scaling—First Team Change</strong>&lt;br&gt;Intro to Cube Mechanics, and scaling, multiplying, and dividing. 5 Cube Mechanical.</td>
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<td>3</td>
<td></td>
<td><strong>Mechanics Reviewed, Grayscale Critique, Cube Render Start</strong>&lt;br&gt;Review all mechanical questions. Intro Mechanical Shadows. Mechanical process. Start first Cube Rendering.</td>
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<tr>
<td>4</td>
<td></td>
<td><strong>Intro to Lighting, Cube Render Redux</strong>&lt;br&gt;Cube Render critique, lighting discussion and demonstrations.</td>
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<tr>
<td>4</td>
<td></td>
<td><strong>Orthographics and Cube-Based Sketching</strong>&lt;br&gt;Grading lecture, notebook effort critique, and introduction to orthographic cube-based objects.</td>
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<td>5</td>
<td></td>
<td><strong>Intro to Grid-Based Sketching and Thumbnailing</strong>&lt;br&gt;Introduction to Cube City Final Project, and the thumbnailing, sketching process. 20 cube-like Objects.</td>
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<td>5</td>
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<td><strong>“Creating Space” Lecture, Cube City Sketch Crit, Thumbnailing Demo</strong>&lt;br&gt;“Creating Space” Lecture, (divisions in space “imply” perspective), first sketches basic crit (make them tonal!), and demo thumbnailing, the “Arrow” (design v. style) and sketching from emotion and stimulation rather than an empty head.</td>
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<td>6</td>
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<td><strong>Intro Ellipses</strong>&lt;br&gt;Introduction to ellipses, upright cylinder and shadow, Pirate critique.</td>
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<tr>
<td>6</td>
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<td><strong>Review of Ellipses</strong>&lt;br&gt;Review basic ellipses, review Cylinder Render mechanical issues, critique first</td>
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<td>sketched ellipses.</td>
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| 7    |        | **Cylinder Render Critique, Cube City Sketch Crit2, “Guptill” Lecture**  
|      |        | Critique Cylinder renderings. Guptill Lecture, critique Cube City Sketches  |
| 7    |        | **Intermediate Ellipses and Cylinders, Ellipse Games, Design and Composition Lecture**  
|      |        | Anne Pons, Franklin Booth, etc. Controlling the eye via contrast. Toilet tissue, Flintstone’s car, Kermit, Worms, Tires, and Spaceships. “I want to draw everything now!” Play with ellipses for homework.  |
| 8    |        | **Intro Spheres**  
|      |        | All basic Sphere information to get students working on Sphere mechanical.  |
| 8    |        | **Sphere Mechanical Crit**  
|      |        | Basic introductory material, first naïve cube rendering, intro teams, passport photos, “What Do You Want to Know?”, cube research, intro to sketching cubes.  |
| 9    |        | **Sphere Critique, Sketching Week One**  
|      |        | Sphere Crit, introduce “Quick Sketching” in the form of Storyboard Challenges, “Impossible POV”, LEGO Brick, and other “in-class” assignments. Discuss and DEMO solutions, etc.  
|      |        | (“Call and Response”, “Pipes”, Quick Renders in chalk, Scale Change, Donut (torus), the “Thing” sketch.) (“improvised form drawing run amok in complexity, form upon form”)  |
| 9    |        | **Sketching Part II**  
|      |        | More Storyboarding exercises. Homework: Sketching Cube-Like objects  |
| 10   |        | **Intro Reflections/Specimen**  
|      |        | Introduction to Reflections. Intro Specimen. Homework: Reflection Mechanical and initial Specimen ideas.  |
| 10   |        | **Reflections Review / Initial Specimen Ideas Crit**  
|      |        | Review Reflections, Demo Matrix grid for ideas, crit Specimen ideas  |
| 11   |        | **Reflection Render Crit / Specimen Ideas**  |
| 12   |        | **Intro Slopes / Photo Reference / Start Mechanical for Cube City**  
|      |        | Introduce Slopes, Photo reference discussion. Crit Specimen Progress  |
| 12   |        | **Slopes Cont. / Crit Specimen Progress**  
|      |        | Continue Slopes, critique specimen progress, Cube City Q&A.  |
| 13   |        | **Surfaces / Crit Specimen Progress**  
<p>|      |        | Text  |
| 13   |        | <strong>Atmospheric Perspective / Crit Specimen Progress</strong>  |</p>
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<tr>
<td></td>
<td></td>
<td>Powerpoint and discussion of atmospheric perspective</td>
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</tbody>
</table>
| 14   |      | **Specimen Critique / Cube City Progress Crit**  
Specimen Due. Cube city progress critique. |
| 14   |      | **Flex Week I**  
Subject TBD depending on class progress on projects. |
| 15   |      | **Flex Week II**  
Subject TBD depending on class progress on projects. |
| 15   |      | **Final Approach I**  
Notebooks Collected. Cube City Critique |
| 16   |      | **Final Approach II**  
Cube City Critique |
| Final Exam | | Normal Classroom, as listed in Final Exam Schedule. |