

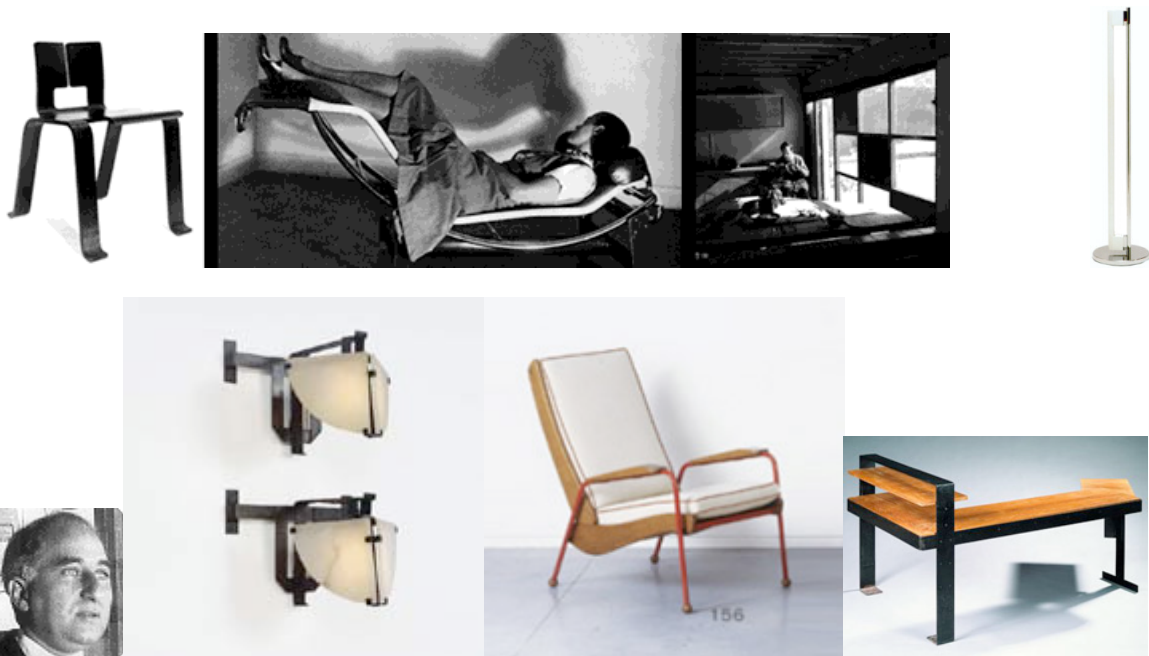
School of Architecture
University of Southern California
ARCH 481: FURNITURE DESIGN
3 units
R. Scott Mitchell

Course Description:

This hands-on seminar will focus on furniture design and metal furniture fabrication. Lectures will provide a foundation for student work by studying the relationships of architecture, art and design during four influential movements taking place at the beginning of the 20th century: futurism, neo-plasticism, modernism, and constructivism. These movements, its artists and architects, explored ideas relating to the changing nature of society, technology, industrialization, the greater influence of machines, new discoveries, and invention. Steel and metalworking were at the forefront of this exploration. These artists and architects were interested in utilizing the newest materials, construction and joining methods as well as innovative finishing techniques.

This course will look closely at the furniture and building design of Pierre Chareau, the work of Carlo Scarpa, and furniture designed by architects and artists including: Eileen Gray, Le Corbusier, Ludwig Mies van der Rohe, Otto Wagner, Adolf Loos, George Nakashima, Jean Prouve, Charles and Ray Eames, Charlotte Perriand, Carlo Molino, among others.

This is a hands-on class that requires attendance and class participation. The first few lectures will explore shop safety, the general properties of steel, how to order it, and the basics of welding and metal working tools. Simultaneous workshops will be held to gain familiarity with shop procedures and working with steel. Subsequent lectures may include guest speakers and/or field trips to designer's studios and production shops. Estimated budget expense for combined furniture projects is between \$75-\$150. This is variable based on each individual's material choices and possible outside vendor costs.



Course Objectives:

Students will complete three projects, the final two will have drawing requirements:



Project 1: Practice Piece TBD (3 weeks)

- Objectives:
- a. Practice: Welding, Cutting, Grinding, Bending
 - b. Improve metal working skills
 - c. Improve Craft
 - d. Develop technique/ style



Project 2: Small project – project brief will be given out at 3rd week (4 weeks)

- Objectives:
- a. Concept/ Interpretation
 - b. Scale/ Proportion
 - c. Material Integration / Joining Methods – Second Material must be an integral/ structural component
 - d. Finish



Project 3: Larger scale project – project brief will be given at 7th week (8 weeks)

Course format:

1. Class will be held once a week for 3 hours, plus occasional field trips. The class will be approximately 65% lecture/field trips and 35% shop time.
2. Attendance is crucial to final grade - more than two “unexcused” classes (as defined by USC guidelines) will result in a grade penalty.
3. The final evaluation will be based upon attendance, participation, teamwork (15%), concept exploration (30%), execution (35%), safety test (10%), case study report (10%)
4. Field Trips and Guest Lectures may change.

Course Schedule:

- Week 1: Lecture: 19th and 20th century steel architecture and furniture design.
Lab: Introduction to welding (theory of metal inert gas welding), initial familiarity with tools, steel properties and ordering steel, safety procedures & introduction to the shop.

Reading: Sembach, Klaus-Jürgen, Twentieth-century furniture design., pp. 16-123
- Week 2: Lecture: Safety and welding; quiz.
Lab: Elementary metal fabrication technique

Reading: The Measure of Man and Woman: Human Factors in Design by Alvin R. Tilley pp. 44-51
- Week 3: Lecture: Student presentations: Case Studies, Inspiration assignment due
Lab: Additional metal fabrication methods

Reading: Blakemore, Robbie G., History of interior design and furniture pp.68-91
Morley, John., The history of furniture pp. 39-62
- Week 4: Lecture: Materials/Joinery Techniques
Lab: Finish Group Project 1: Craft, Welding, Cutting, Bending, Grinding
- Week 5: Lecture: Structural Principles in Furniture Design: Cantilever, Connection
Lab: Cantilever Construction and Testing: "Make it and Break it"
- Week 6: Lecture and Lab: Critique of Student Design Proposals

Reading: Rüegg, Arthur, Swiss furniture and interiors in the 20th century, Basel ; Boston : Birkhäuser, 2002. pp. 160-195
- Week 7: Lecture: Strength of materials; Scale, weight,
Lab: Design Project Sketching, shop time.

Reading: Designing for People, by Henry Dreyfuss, Earl Powell pp.12-35
- Week 8: Lecture: Fit and Finish
Lab: Sketching, shop time to complete Project 2)

Reading: Uta Abendroth, World design : the best in classic and contemporary furniture, fashion, graphics and more pp. 75 - 93
- Week 9: Lecture: Metal Sculptural Design and Theory.
Lab: Sculpting Methods: Bending, Stretching and Rolling
- Week 10: Lecture: Fabrication Techniques
Lab: FIELD TRIP: Modernica Furniture Factory (tentative)

Reading: Jean Prouve Highlights 1917-1944, by Peter Sulzer and Erika Sulzer-Kleinemeier pp. 20-62
- Week 11: Lecture: Dynamic Elements in Furniture Design: Hinge, Pivot, Motion
Mid-term Exam on Readings
Lab: Connections for motion. Hinges and Pivots
- Week 12: Lecture: Issues in large scale furniture design
Lab: Final Project. Individual Critiques
- Week 13: Final Fabrication
- Week 14: Lecture: Final Design review
- Week 15: Lecture and Lab; Final Project
- Week 16: FINAL PRESENTATION / Critique

Bibliography

- Abendroth, Uta, World design: the best in classic and contemporary furniture, fashion, graphics and more, San Francisco : Chronicle Books, 2000.
- Ascensio, Paco, Furniture design, New York, NY: TeNeues, 2002.
- Blakemore, Robbie G., History of interior design and furniture: from ancient Egypt to nineteenth-century Europe with line drawings by Julie L. Rabun., New York : Wiley, 1997.
- Bloemink, Barbara J., Design [does not equal] art : functional objects from Donald Judd to Rachel Whiteread, London ; New York : Merrell, 2004.
- Bony, Anne., Furniture & interiors of the 1960s, Paris : Flammarion, 2004.
- Dreyfuss, Henry and Powell, Earl, Designing for People, New York: Allworth Press, 2003.
- Finch, Richard, Welder's Handbook (chapters 1, 4, 7, 11 and Glossary of Terms pgs. 161 -164), Los Angeles, HP Trade, 1997.
- Jean Prouvé, Charles & Ray Eames : the great constructors, parallels and differences : constructive furniture, Vitra, 2002.
- Le Corbusier, Towards a New Architecture (Introduction, Chapter One - The Engineer's Aesthetic and Architecture, Chapter Four - Eyes Which do not See), New York, Dover Publications, 1985.
- Main, Kari M., Please be seated : contemporary studio seating furniture, New Haven, Conn. : Yale University Art Gallery, 1999.
- Morley, John., The history of furniture : twenty-five centuries of style and design in the Western tradition, 1st North American ed., Boston : Little, Brown and Co., 1999.
- Rowlands, Penelope Bartolucci, Marisa (Editor), Cabra, Raul (editor), Eileen Gray (Compact Design Portfolio), San Francisco, Chronicle Books, 2002.
- Rüegg, Arthur, Swiss furniture and interiors in the 20th century, Basel ; Boston : Birkhäuser, 2002.
- Sembach, Klaus-Jürgen, Twentieth-century furniture design, Köln : Taschen, 2002.
- Sulzer, Peter and Sulzer-Kleinemeier, Erika, Jean Prouve Highlights 1917-1944, Basel: Birkhauser, 2002.
- Tilley, Alvin R., The Measure of Man and Woman: Human Factors in Design, New York: Wiley, 2002.

Statement for Students with Disabilities

Any student requesting academic accommodations based on a disability is required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me (or to TA) as early in the semester as possible. DSP is located in STU 301 and is open 8:30 a.m.–5:00 p.m., Monday through Friday. Website and contact information for DSP: http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html, (213) 740-0776 (Phone), (213) 740-6948 (TDD only), (213) 740-8216 (FAX) ability@usc.edu.

Statement on Academic Integrity

USC seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. *SCampus*, the Student Guidebook, (www.usc.edu/scampus or <http://scampus.usc.edu>) contains the University Student Conduct Code (see University Governance, Section 11.00), while the recommended sanctions are located in Appendix A.

Students will be referred to the Office of Student Judicial Affairs and Community Standards for further review, should there be any suspicion of academic dishonesty. The Review process can be found at: <http://www.usc.edu/student-affairs/SJACS/>. Information on intellectual property at USC is available at: <http://usc.edu/academe/acsen/issues/ipr/index.html>.

Emergency Preparedness/Course Continuity in a Crisis

In case of a declared emergency if travel to campus is not feasible, USC executive leadership will announce an electronic way for instructors to teach students in their residence halls or homes using a combination of Blackboard, teleconferencing, and other technologies.

Please activate your course in Blackboard with access to the course syllabus. Whether or not you use Blackboard regularly, these preparations will be crucial in an emergency. USC's Blackboard learning management system and support information is available at blackboard.usc.edu.