

USC School of Dramatic Arts

Theatre 335 Scenic Construction

2017-3—MW—8:30 am- 9:50 am and 1 weekly 3 hour lab
as scheduled

Location: TTL 101.

Instructor: Duncan Mahoney

Office: TTL 102

Office Hours: M-F 10-1 by appointment

Contact Info: dmahoney@usc.edu, 213-743-1968

Course Description and Overview

Technology, organization, and operation of the theatrical scene shop centered around the proper and safe use of tools, the choosing of materials, and methods of construction.

Learning Objectives

Through lecture, demonstrations, and hands-on laboratory exercises, students will learn scenic construction techniques, shop math and engineering, rigging math and methods, safe and effective use of advanced power tools including welding and turning, as well as basic budgeting and project management techniques. Students will complete a fully documented final project as a culminating exercise.

Prerequisite: It is assumed that students in this class will have basic wood and metal working skills that were learned in Theater 130 or a similar class. If you have not completed tool training in Thtr 130 or 131, you will need to do so

Required Texts

Stock Scenery Construction Handbook, Bill Raoul, Broadway Press; Stage Rigging Handbook, 3rd ed., Jay O. Glerum, Southern Illinois University Press; Welder's Handbook, Richard Finch, HP Books.

Recommended Reading: The Backstage Handbook, Paul Carter; The Complete Manual of Woodworking, Jackson, Day, & Jennings; Scenery for the Theatre, Burris-Meyer, & Cole

Grading Criteria and Assessment of Assignments

20% homework assignments, 10% midterm exam, 20% assigned class projects, 15% project proposal, 5% project "post-mortem", 15% project, 15% final exam. Grading is curved based on the students currently in the class, but historical records are also considered. I expect homework and exams to be complete, with all steps shown in calculations. Just having the right answer is not sufficient; also, the wrong answer preceded by the proper steps and an unfortunate math error may get partial credit. Late homework or exams not accepted.

Assigned Class Projects: Students will build several assigned projects including variations in style of flats and platforms, etc. In an ideal world, i.e., schedules permitting, students will be able to pair up with a lab partner for these assignments. Grading is based on the quality of the finished item, and proper techniques in use of the tools and materials. Projects should be completed within 2 weeks of being assigned.

Projects: Students are expected to propose and complete a substantial individual project involving wood and/or metal working for this class. It is expected that construction of your project should take 30-40 hours of work. If materials are provided and paid for by the student, the project can be almost anything meeting the above criteria. If the materials are paid for by the School, a project must be chosen from the TD's list. Grading is based on the quality of the finished item, and proper techniques in use of the tools and materials.

Project proposals: A big percentage of your grade is riding on the project proposal and post-mortem. I am expecting the proposal to include the drawings necessary to build the project, a materials list with costs, a description of the activities needed to complete the project broken down by task, and an estimate of the time necessary to complete each task. The document should be neat and complete. If you purchase or download plans, I expect your own commentary on the steps to build the project, or your grade may be affected. **No work may begin on a project before the proposal is approved.** The post-mortem should include an analysis of how your finished project deviated from your proposal and why, along with an account of the process and how long each step actually took. **The project proposal is an important document that allows you to pre-plan each step of your project and find process problems on paper before finding them during assembly of the project. If you have not turned in your project proposal by the 10th week of the term, you should probably drop the class, or plan to stay until the last day of finals before you leave for break. Note: sanding always takes longer than you planned.**

Lab sessions: Students are expected to sign up for a regularly scheduled 2 to 3 hour lab period, and to show up as scheduled. Lab sessions will involve practice of skills demonstrated in lecture periods and construction of assigned class projects. Once an individual project proposal has been approved, the student may work on the project during the lab period or at any other time the lab is open.

Conflicts of interest: If you are an employee of the Scene Shop, it should go without saying that you will not be paid for the time you spend in lab and/or building your project.

Shop Safety: Intentionally unsafe work practices and other such "horseplay" can result in serious injury to yourself and others. Such activities will not be tolerated and will be addressed by a penalty ranging from a reduction in the assigned grade to removal from the class. If you cause injury to another person through an intentional act, you may also be liable for criminal and civil penalties. Proper attire is required for lab sessions. Safety glasses **must** be on at all times, hearing protection should be used for noisy jobs, and dust masks are available for dusty jobs. **Sturdy closed toe and heel shoes and long pants/skirt must be worn.** Natural fiber clothing should be worn and long hair **must** be pinned or tied back. Lab work may involve paint, grease, and dust. **Welding will involve sparks and hot droplets of molten metal, consider carefully the flammability of your clothes and shoes.** Do not wear clothes you want to keep clean and unstained. You may wish to bring work clothes to change into, and consider that we will end up in the lab during a lot of the lecture periods.

Weekly Schedule:

- Week 1: Intro to class and basic shop safety, PPE, proper attire, sharpening.
Tool safety refresher and shop tour, specialty hand tools
- Week 2: Wood, lumber, and sheet stock, fasteners, saw blades.
Advanced uses: table saw, panel saw, wood lathe
- Week 3: Metal, welding, and welding safety. Read chapters 1 thru 9 of the Welder's Handbook.
Oxy-acetylene torch welding of steel
- Week 4: Welding continued, flat types. Read chapter 11 of the Welder's Handbook for Monday. Read Scenery Handbook through page 111, and pages 214-246 for Wed.
MIG welding
- Week 5: Breaking down a plan, working drawings and cut lists
Project Broadway flats
- Week 6: Platform types. Shapes without right angles. Finish Scenery Handbook
Project Hollywood flats
- Week 7: Calculating loads, the steps before the engineering.
Project platforms, Handout: **midterm exam**
- Week 8: Understanding span tables and calculators. (Is your project proposal at least started?)
Oxy-acetylene cutting torch and plasma torch
- Week 9: Plastics, glues, goops, and textures.
Fun with glop
- Week 10: Rope and rigging. Read Stage Rigging Handbook at least through p 113 & 190-196.
Knot-tying and splicing of 3-strand rope, reeving block and tackle
(You should have given me at least a first draft of your project proposal by Monday!)
- Week 11: More rigging, with cable, and fall protection. Finish Stage rigging Handbook.
Swaging Nicopress sleeves, installing cable clips, rigging a piece of scenery to fly
- Week 12: I lose money on every job, but I make it up in volume; pricing work.
Workflow scheduling, Trim details.
Advanced wood lathe use
- Week 13: Touring scenery considerations.
Glass cutting, connector wiring
- Week 14: Guns, bombs and other FX. (Is your project done? Started?)
Loading blanks, black powder pyro, fire, debris cannons, smoke & fog.
- Week 15: Portfolio building for the TD. Finish your project!

Final Exam:

8:00 am December 5th at TTL. Final Projects to be completed by 5:00 pm December 12th, Post Mortems due by noon December 13th.

Statement on Academic Conduct and Support Systems**Academic Conduct:**

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, “Behavior Violating University Standards” <https://policy.usc.edu/scampus-part-b/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct>.

Support Systems:

Student Counseling Services (SCS) - (213) 740-7711 – 24/7 on call

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

<https://engemannshc.usc.edu/counseling/>

National Suicide Prevention Lifeline - 1-800-273-8255

Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. <http://www.suicidepreventionlifeline.org>

Relationship & Sexual Violence Prevention Services (RSVP) - (213) 740-4900 - 24/7 on call

Free and confidential therapy services, workshops, and training for situations related to gender-based harm. <https://engemannshc.usc.edu/rsvp/>

Sexual Assault Resource Center

For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: <http://sarc.usc.edu/>

Office of Equity and Diversity (OED)/Title IX compliance – (213) 740-5086

Works with faculty, staff, visitors, applicants, and students around issues of protected class.

<https://equity.usc.edu/>

Bias Assessment Response and Support

Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. <https://studentaffairs.usc.edu/bias-assessment-response-support/>

Student Support & Advocacy – (213) 821-4710

Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. <https://studentaffairs.usc.edu/ssa/>

Diversity at USC – <https://diversity.usc.edu/>

Tabs for Events, Programs and Training, Task Force (including representatives for each school), Chronology, Participate, Resources for Students