

OIMB Syllabus

OIMB Science Illustration

Bio 408/508 - is a highly concentrated introductory scientific illustration course. Students will work on developing drawing and observation skills while studying the amazing biotic community of the Oregon coast. The OIMB marine lab provides unique access to a wide variety of marine animals and plants offering an incredible array of biological subjects to work from.

The process of visually rendering a subject represents a mode of thinking that is very different from verbal thought. We live in a world of verbiage that puts labels on everything. Each label is a shortcut allowing our brains to process information more efficiently. Think of a ship and ship of some kind comes to your mind. When I say plane, train, tree, horse etc., images pop into your brain. Depending on the depth of your knowledge of each of these subjects' various levels of detail may come to mind. But no matter how well you know something verbal labels fall short of a full description. Drawing helps you understand and describe your world more completely because the act of drawing requires in-depth observation in ways that you may have never experienced before. That kind of observation is what this class is about.

The skills taught in this course are designed for both science and art students. Biology students gain an appreciation for how to create scientific drawings. They come away with a new appreciation of how to look, observe and record what they see. Art students come away with a refresher of art technique, a broadening of their understanding of the natural world and a new source of inspiration for their art.

Illustration Course Syllabus

Keep in mind this schedule may vary depending on external circumstances like weather, available specimens, exciting happenings etc.

Day 1: Pencil (June 22)

Objective: create at least one fully rendered drawing in graphite from one of the many specimens in OIMB's teaching collection.

We begin by studying several classic drawing exercises that artists use to develop drawing technique. These include: gesture, contour, negative and positive space, lighting and perspective. These exercises will help students understand how artists view and render what they see.

In class demonstration of the process of developing preliminary drawings concentrating on envisioning large shapes, proportions, shading and technique.

Afternoon:

Begin drawing from a teaching specimen in the OIMB collection. Use all the exercises that were talked about in the morning to produce a preliminary drawing. As you work I will come around and help as needed. Once your preliminary drawing is done we will review it considering any changes that might be needed. Use a tracing paper overlay to produce a secondary drawing implementing the changes.

Mid-afternoon (about 2:00pm) we will take a break and, if weather permits, go outside and do some field sketching.

Upon returning to class make any last-minute adjustments and finalize the initial drawings. I will show you how to transfer your sketches to either good quality drawing paper or illustration board. The rest of the afternoon will be spent rendering your subject as clearly and accurately as you can. Remember to use a full range of values emphasizing the 3D volumes of your object. Try to make your final drawing as accurate, clear and concise as you can.

Day 2: Pen & Ink botanical drawing (June 23)

Object: Create one good pen and ink drawing of a botanical subject.

Pen & ink has traditionally been considered the primary technique for a biological illustrator to master. Pen & Ink drawings are printed with one color, usually black, and are easier and cheaper to reproduce than either color or grayscale making them a favorite for many publications.

The pen and ink artists can create the illusion of shapes, edges, texture, depth and perspective using line only. Obviously, because of the limitations of pen and ink it is not possible, (or desirable due to the printing process) to draw gray lines, but it is possible to create the illusion of areas that look gray. This is done by using dot or line patterns. Lines or dots placed closely together provide the illusion of darker value space the lines or dots out and a lighter value is produced. The nature of the spacing of the lines (or dots) and their quality can produce the impression of different textures as well. The main thing is to have patience. Pen & Ink can be difficult to master, but once you begin to get the feel for it you will find it is a highly satisfying, versatile and fun technique.

We will start the day with a visit to South Slough Estuarine Research Reserve so be on time. South Slough has amazing biotic diversity and represents a wonderful opportunity to observe and draw a wide variety of plants unique to the estuary ecosystem. This will take about three hours. Bring a sketchbook for drawing and cameras for photography. Focus on one or two plants that are of interest to you. These will become your subjects for the afternoon pen and ink drawing.

When we return I will do a demonstration botanical drawing and will talk about some tips and tricks when working with botanical subjects. I will also present a set of pen and ink exercises that I want you to work through before you commit to your final drawings.

Afternoon:

Using the lessons from the first day prepare an initial graphite sketch of the plant you have selected. Be accurate and add as much detail as possible and it will help you when you turn to pen and ink.

Transfer the drawing to the final working surface, either hot press illustration board or good quality plate Bristol board. After you feel comfortable working with the pen progress with your drawing. I will be available at all times if you need help.

Evening: Finalize your drawings.

Week: Research seal and sea lion anatomy (bone and muscle structure) during the week. Develop preliminary sketches of a seabird, seal or sea lion composition. I will demonstrate in class what I want you to do.

Day 3: Scratchboard Drawing of a sea bird, seal or sea lion. (June 29)

Objective: Create one good scratchboard drawing of a sea bird, seal or sea lion.

Morning:

We will go to Simpson's reef with spotting scopes and spend about an hour sketching and photographing the seals and sea lions that congregate there. We may also go to North Cove and hike down to the beach and see if we can get any photos of seabirds. This will take about three hours.

Upon returning to class I will give an introductory talk about scratchboard and we will review a variety of different scratchboard drawing styles and techniques. I will then do a demonstration drawing showing the scratchboard process and technique.

If time permits I will present a lecture on the history of science illustration.

Afternoon:

Combine the compositional sketches you created during the week as well as the photographs and sketches from this morning as a starting point to produce a preliminary drawing of a seal or sea lion.

Before you begin your drawing take some time to experiment and become familiar with scratchboard. When you are comfortable with the process transfer your drawing to scratchboard and render a seabird seal and/or sea lion to the best of your ability.

Evening: Review the anatomy of your chosen animal again. We will talk about this more in class but this information will be important for Day 4.

Day 4: Anatomical drawing of a sea bird, seal or sea lion, (June 30)

Objective: Produce two overlay drawings showing the skeletal and muscular structure of the seabird, seal or sea lion from Day 3.

Conveying information in graphics is a very important skill in scientific illustration. This can be done in many ways. One example of this is an anatomical drawing which shows the underlying structures in an animal. Here you must combine reference drawings of an actual animal with what we know about the various internal structures. That is what we will do for today's exercise.

Morning:

Discussion about seal and sea lion anatomy. I will expect you to direct much of this discussion since you have been reviewing their anatomy during the week.

Demonstration of how to develop an anatomical drawing.

Using the medium of your choice take the drawings you produced yesterday and outline the basic silhouette shape of the animal. Use this as a template for two drawings. The first will be a drawing of its skeleton and the second will be an overlay drawing showing the musculature. If possible, we will visit the Marine science center which has many fully assembled skeletons that we can study.

Prepare two detailed preliminary pencil sketches of the skeleton and musculature of your animal on tracing paper. I will give you a list of the bones and muscles to try and include in these sketches. Be aware that the pose of the animal in your drawing may make it impossible to include some of these. If they can't be seen don't include them!

Afternoon:

Transfer the drawings to the medium of your choice. You can use graphite, pen & ink or scratchboard. If you are familiar with ink wash and/or watercolor and want to try those techniques let me know ahead of time.

If time permits we will go outside for some field sketching.

Proceed to render your anatomical drawings. When finished you should be able to layer both onto the drawing of the day before and identify the major 'visible' bones and muscles.

At 4:30pm we will wrap up. There is a final art show in the cafeteria where we present everyone's work. If you finished with all your projects you can help put this up.