

Scientific Illustration (3 cr. hrs.) E

BIOL811 section 01

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Office hrs: MWF 9:00-10:00 am
or by appointment

Description

An introduction to the discipline of scientific illustration. Students will learn the fundamental principles of creating effective illustrations for the purpose of communicating science. A limited set of media types, both traditional and digital, will be explored. The main focus will be on creating the best images for use in research, teaching, journal publications, presentations, and other applications. Copyright and other legal issues will also be discussed. A basic knowledge of biological concepts is useful; artistic ability not required. Offered online, Spring only.

Course Objectives

The student outcome objectives for this course are to 1.) become familiar with the discipline of scientific illustration, 2.) learn how images are used to effectively communicate science, and 3) acquire skills for creating images for education or research purposes.

One of the primary purposes of this course is to become familiar with the discipline of scientific illustration. Scientific illustration is an enormous field of study spanning all of the various disciplines of science (biology, chemistry, physics, earth science, astronomy, etc.) as well as most of the diverse media types used by modern artists (graphite, ink, colored pencil, watercolor, acrylic, digital, etc.). It is, of course, virtually impossible to cover all aspects of this vast discipline in the duration of a one semester course. We will focus our attention on the basic principles that apply to all scientific illustrations, the qualities that make an image effective, copyright laws and other legal issues, and the production of science illustrations. Throughout this course, we will be using three primary media types: continuous tone (graphite pencil), black and white (technical pen), and color (colored pencils). Limiting our number of media types will allow us to explore them in greater detail and to acquire a degree of proficiency in each technique. Even though scientific illustration covers the entire gamut of science, we will focus our attention on the field of biology. The format of this course will probably seem very different compared to other science courses you have taken. There will be little emphasis on exams, papers, written assignments, and other traditional forms of assessment. This course is very project oriented. The majority of points awarded will be for the original illustration projects you create.

Plagiarism/Copyright Infringement

Plagiarism/copyright infringement is the act of taking someone else's work and attempting to pass it off as your own. Plagiarism and copyright infringement will not be tolerated. If you plagiarize or copy someone's photo or illustration you will receive a 0 for that assignment.

Required Materials

Graphite media:

- Drawing pencils – medium (HB), hard (6H or 4H), soft (4B or 6B)
- Eraser
- Drawing paper 9"x 12" (pad or single sheets)

Ink media:

- Technical pens – any brand (Zig, FaberCastell, Staedtler, Rapidograph, etc.) with fine points of various sizes (0.2 – 0.65 mm) (PITT artist pens, Micron, and Copic are very good!)
- Bristol board 9"x 12" pad or single sheets (Strathmore smooth 300 series, etc.)

Colored pencil media:

- Colored pencils (Prismacolor, Derwent, Faber-Castell, etc.)
- Drawing paper 9"x 12" (pad or single sheets)

Optional Materials

Sketch pad

Mechanical pencil

Item	Quantity	Points	Total	% Score	Grade
Exam	1	50	50	>97.99	A+
Sketches	3	10	30	92.00-97.99	A
Assignments	3	30	90	90.00-91.99	A-
Discussions	4	20	80	88.00-89.99	B+
Illustrations	4	100	400	82.00-87.99	B
Final Illustration	1	200	200	80.00-81.99	B-
TOTAL =			850	78.00-79.99	C+
				72.00-77.99	C
				70.00-71.99	C-
				68.00-69.99	D+
				62.00-67.99	D
				60.00-61.99	D-
				<60.00	F

Course Policies and Resources

All students at the University of Nebraska Kearney should be aware of the following university-wide course policies and resources.

Attendance Policy

Your instructor may have indicated on their syllabus an attendance policy specific to their class. If so, that is the policy with which you must comply. If no other policy is stated, the University-wide attendance policy will apply.

[Undergraduate Student Attendance Policy](#)

[Graduate Student Attendance Policy](#)

Academic Honesty Policy

Academic honesty is essential to the existence and integrity of an institution of higher education. The responsibility for maintaining that integrity is shared by all members of the academic community. To further serve this end, the University of Nebraska at Kearney has a policy relating to academic integrity.

[Undergraduate Academic Integrity Policy](#)

[Graduate Academic Integrity Policy](#)

Reporting Student Sexual Harassment, Sexual Violence or Sexual Assault

Reporting allegations of rape, domestic violence, dating violence, sexual assault, sexual harassment, and stalking enables the University to promptly provide support to the impacted student(s), and to take appropriate action to prevent a recurrence of such sexual misconduct and protect the campus community. Confidentiality will be respected to the greatest degree possible. Any student who believes they may be the victim of sexual misconduct is encouraged to report to one or more of the following resources:

- **Local Domestic Violence, Sexual Assault Advocacy Agency** 308-237-2599
- **Campus Police (or Security)** 308-865-8911
- **Title IX Coordinator** 308-865-8655

Retaliation against the student making the report, whether by students or University employees, will not be tolerated.

Students with Disabilities

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students with documented disabilities. To receive accommodation services for a disability, students must be registered with the UNK Disabilities Services for Students (DSS) office, 175 Memorial Student Affairs Building, 308-865-8214 or by email unkdso@unk.edu

Students Who are Pregnant

It is the policy of the University of Nebraska at Kearney to provide flexible and individualized reasonable accommodation to students who are pregnant. To receive accommodation services due to pregnancy, students must contact the Student Health office at 308.865.8218. The following links provide information for students and faculty regarding pregnancy rights. <https://thepregnantscholar.org/title-ix-basics/>
<https://nwlc.org/resource/faq-pregnant-and-parenting-college-graduate-students-rights/>

UNK Statement of Diversity & Inclusion

UNK stands in solidarity and unity with our students of color, our Latinx and international students, our LGBTQIA+ students and students from other marginalized groups in opposition to racism and prejudice in any form, wherever it may exist. It is the job of institutions of higher education, indeed their duty, to provide a haven for the safe and meaningful exchange of ideas and to support peaceful disagreement and discussion. In our classes, we strive to maintain a positive learning environment based upon open communication and mutual respect. UNK does not discriminate on the basis of race, color, national origin, age, religion, sex, gender, sexual orientation, disability or political affiliation. Respect for the diversity of our backgrounds and varied life experiences is essential to learning from our similarities as well as our differences. The following link provides resources and other information regarding D&I: <https://www.unk.edu/about/equity-access-diversity.php>

Weeks	Date	Lectures	Assignments/Projects
1	1/23 - 1/29	Introduction Welcome, Syllabus, Schedule, Materials	Introduce yourself
2	1/30 - 2/5	Lectures on Scientific Illustration History, Media, Profession, Copyright, Reference Material How to Illustrate Process, Sketching, Transferring, Perspective, Tools, Shape, Form, Details Technical Aspects Type, Labels, Leader lines, Call-outs	Sketch 1 (due 2/5) Sketch 2 (due 2/5) Sketch 3 (due 2/5) Discussion 1 (due 2/5) Exam (due 2/5)
3	2/6 - 2/12	Graphite Tools Continuous Tone Shape, Form, Details Graphite Assignment Graphite Illustration	Discussion 2 (due 2/12) Graphite Assignment (due 2/12) Graphite Illustration (due 2/12)
4	2/13 - 2/19	Ink Tools Black-and-white Shape, Form, Details Ink Assignment Ink Illustration	Discussion 3 (due 2/19) Ink Assignment (due 2/19) Ink Illustration (due 2/19)
5	2/20 - 2/26	Colored Pencil Tools Color Shape, Form, Details Colored Pencil Assignment Colored Pencil Illustration	Discussion 4 (due 2/26) Colored Pencil Assignment (due 2/26) Colored Pencil Illustration (due 2/26)
6	2/27 - 3/5	Real Projects Working with clients Real-world illustration	Real-world Illustration (due 3/5)
7-8	3/6 - 3/24	Final Final Illustration	Final Illustration (due 3/24)