**ART 4276C: Honors Scientific Illustration II,** 3 credits

Dorotha Lemeh, Associate Professor of Visual Art

Monday & Wednesday

HA 104 & AD 122



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**Course Description:**

Honors Scientific Illustration II is a course designed for students interested in depicting, in precise detail, mammals and aquatic life. Using both traditional media (graphite, watercolor, gouache, acrylic, ink), ipads, digital photography, and other digital technology, students accurately illustrate, paint, digitally capture or/ and photograph fish, birds, amphibians, reptiles and other mammals. Students will travel on-location to various venues to be determined by each assignment or weather conditions. For a more in-depth understanding of the work completed in Honors Scientific Illustration II, it is highly recommended (though not required) that students schedule this course simultaneously with (ZOO 2303/2303L) Honors Vertebrate Zoology with Lab and/or OCB 3012/3012L Honors Marine Biology and Oceanography with Lab.

Each student is required to place his/her visual and written information in a Process Art Journal (PAJ) and Art Blog. This journal will contain a detailed record of illustrations, scientific specimens, and other visual information about the recorded subjects. Students should keep their PAJs with them at all times, since it will eventually become a valuable guide and resource for further and future study. Information for the Art Blog can be entered on-line once you return to the computer lab or are connected to wi-fi using your laptop or an ipad. At the end of the course a minimum of 30 illustrations shall be included in an on-line portfolio and/or printed one.

**Honors Distinction:** This course contributes to the Honors College curriculum as it is designed to fit into an interdisciplinary curriculum in the liberal arts and sciences that includes team taught courses and courses that emphasize critical thinking and writing across the disciplines. It differs substantially from the non-Honors version, since the writing component of the course will be much more demanding, and will prepare students for work on their professional portfolios and their **Honors Thesis**. Students will be exposed to vocabulary of a specifically theoretical nature, and will be expected to comprehend these new concepts and to deploy these new terms in their own critical thinking and writing in relationship to their visual works. Students will also engage with the current digital software and technological tools used by today’s illustrators in order to visually create imagery relevant to the art & science community. Most importantly, this course will reflect the interdisciplinary nature of Honors education and will inculcate critical attitudes and skills that will teach you how to learn for yourself.

**Required Text:**

Hodges, Elaine R.S. GNSI Handbook of Scientific Illustration. Second Edition. 2003. Wiley Publishers.

**Learning Goals:**

By the end of this course students should be able to:

1. Create detailed and accurate visual illustrations of mammals & aquatic life
2. Develop fundamental drawing skills using traditional and digital methods to accurately depict three-dimensional forms
3. Successfully use and become familiar with computer graphic software (Adobe illustrator, photoshop, Corel paint, etc) used to create graphic illustrations
4. Gain an appreciation for the beauty of past and present scientific illustrations
5. Develop a strong portfolio of scientific illustrations

**Grade Assessment:** *Visual & Written Assignments, Class Participation, Performance, and Attendance*

With grading there is no distinction made between art majors, art minors or non-majors. Discussion papers of assigned readings and student assessments of their artworks are also graded. There may be a quiz if it is determined that students are not remaining current with the assignments. Supplemental materials in the form of project guidelines outlining each project will be provided.

**Letter Grade Number Grade**

A 95-100

A- 90-94

B+ 87-89

B 82-86

B- 79-81

C+ 76-78

C 65-75

C- 60-64

D 50-59

F0-49

**Visual Component: 40%**

Drawing, Illustration, Digital Media, Process Art Journal/Field Studies Journal, Powerpoint & Poster Presentations

Includes but not limited to the following:

* Accuracy of visual representation
* Mastery of technical tools and illustrative techniques
* Overall improvement of submitted work over the course of the semester
* Visual assignments handed in on time

**Written Component: 40%**

* Student assessments, Discussion papers & on-line blog/journal

**Class Participation: 20%**

* Class participation means coming to class having completed the assigned visual project, the student art assessment, and assigned readings. It also means being prepared to ask and answer questions on artworks, artists, and art theories viewed, read or discussed. It also may mean working in small groups during these discussions and participating in student centered group critiques. *Class participation is looked on as a vital part of student learning and engagement and therefore is graded.* Lack of class participation in class discussions will result in the lowering of your grade by 20%.

**Attendance**

* **Regular attendance is not only expected, it is graded.** All students are expected to come to class, be on time, and have assignments completed. Every absence after 3 will result in the lowering of the overall grade by10%. Six absences will result in a grade of "D" after 8 absences a grade of "F" is earned.
* 4 absences = highest grade is a B+
5 absences = highest grade is a C+
6 absences = highest grade is a D

7 absences = automatic failure

**The Honors College Academic Honor Code**

*Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.*

<http://www.fau.edu/divdept/honcol/academics_honor_code.htm>

<http://www.fau.edu/regulations/chapter4/4.001_Code_of_Academic_Integrity.pdf>

**Students with Disabilities**

*The rights of students with disabilities are protected under Section 504 of the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act of 1990 (ADA).* Please consult the University website for additional information concerning Disability Services: < http://www.osd.fau.edu> *In compliance with the Americans with Disabilities Act (ADA), students who require reasonable accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, LA 240 (954-236-1222); in Jupiter, SR 110 (561-799-8010); or at the Treasure Coast, CO 117 (772-873-3441) – and follow all OSD procedures.* <http://osd.fau.edu/Rights.php>

**Class Room Etiquette**

University policy on the use of electronic devices states: “In order to enhance and maintain a productive atmosphere for education, personal communication devices, such as cellular telephones and pagers, are to be disabled in class sessions.”

**Notes about Safety**

The beauty of Florida sometimes eclipses the necessity to be on your guard for insects (ticks, fire ants, wasps & bees), snakes, gators and other such creatures living in their habitat that we might disturb. When we are on-location be prepared and remain observant of your surroundings. If or when you see a snake, rodent, wildcat, alligator or crocodile that may be in the vicinity let others know and take yourself (sensibly) out of harms way. Be sure to partner with another student when you are on-site and tell the instructor or instructors where you intend to be. Also keep your cell phones on at all times in case you become separated from the group and we need to reach you. We want you to enjoy your educational experience, but we also want you to use common sense and be an active participant in your own safety.

**Visual Component and Writing Assignment**

**Visual Component with Process Art Journal/ Field Studies Journal**

Using traditional materials and other new media technologies students are encouraged to accurately depict various species and other natural elements found in Nature. Any recorded information can be included on a created website, however, copyrighted material must be handled in accordance to established copyrighted rules and regulations. Students are required to document their process and findings, by graphic form (photography, video, drawings, prints, cartoons, paintings, photoshop illustrations) and written text (email, letters, poetry). The recorded information can be included on a created website. A final presentation by students will be made either in class or in a public forum. A copy of the final project with the student name, date, title of the class & name of the instructor is to be placed on a CD-R, VHS, or DVD and submitted to the instructor.

**About the Process Art Journal, Field Studies Journal & Art Blog**

The Process Art Journal/Field Studies Journal & Art Blog are used as visual records of the student’s graphic illustrations, preliminary ideas, creative thoughts, and recorded experimentations. Used as an extension of observational learning the PAJ/FSJ & Blog contain an outline of the step-by-step processes of the work involved in creating the final art piece. In each stage the viewer gains an understanding of the ways in which the creative process was developed from inception to completion. Dates are recorded. Illustrations, digital images, sketches or other ways of image making are included in this journal. Print outs that relate to technical aspects of the creation of the artwork are included in the PAJ/FSJ & Blog. Students are encouraged to take copious notes on principles of design, the nature of mark making and theoretical notations on color. This information will later be used as a handy reference guide for students drawing on location. Imagery drawn, painted or photographed must be scientifically identified by name. Any other additional information associated with the subject should also be included in the student’s PAJ/FSJ & Blog. This recorded information can be included in a powerpoint presentation that the class will view at the end of the semester. By the end of the course the student will have amassed an impressive portfolio of detailed illustrations.

**Writing Component**

Reading and writing assignments in this course encourage critical thinking and analysis of historical and current theories, issues, and ideas concerning scientific illustration. Each paper with questions provide students with the opportunity to not only view visual literacy through the lens of written text, but discuss how such views inform and form a great understanding of the relationship between visual art, idea, concept, and development. The student will read about as well as view the artwork and life of Science illustrators.

**Digital and Electronics in and outside of the Classroom**

Students are encouraged to bring digital cameras, laptops, ipads, wacom or bamboo tablets, digital video cameras and other electronic devices to class for the sole purpose of creating art images, taking notes, and crafting the graphic novel. This is a time for working towards completing class assignments and not viewing your email, texting, watching on-line videos, checking facebook or any other form of non-academic activity. Abuse of such a privilege may lead to banning these items from

**Computer and Art Labs**

Using the art and computer labs outside of assigned class time is an integral part and necessary component of this course. Computer labs that have photoshop are located in AD 122. A list of students who are to be allowed to enter the Art Lab after hours will be submitted to the proper authorities for approval. If your name is not included on the list be sure to notify the instructors, otherwise entry into these spaces will be prohibited.

**Semester at a Glance**

The allotted time for each session is 2 hours and 50 minutes. Come prepared each day with the equipment needed to closely observe, render in detail, and research specimens collected. This means drawing instruments, cameras (or videos), ipads and/or laptops. When bringing this equipment on location bring these items in a protective carrying case that is waterproof and/or insulated. If we are traveling to a site on or near water or inclement weather posses the possibility for your equipment to get wet, then keep your things in a place of safety to protect these items from harm. In other words, use those measures that will serve to keep your electrical equipment running smoothly.

Week 1:

Day 1 Review of syllabus and class discussion of the course requirements.

Workshop: Introduction of basic drawing, color and design skills (form, shape, volume, line, composition, etc.) used to render an image.

Read: Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration pgs. 302 - 320

**Some helpful & informative websites**

Smithsonian: <http://vertebrates.si.edu/index.html>

Smithsonian Research Center at Fort Pierce: <http://www.sms.si.edu/>

Lagoon Inventory: <http://www.sms.si.edu/irlspec/index.htm>

Wildlife Research Center: <http://www.pwrc.usgs.gov/history/bsphist2.htm>

Florida Museum of Natural History: <http://www.flmnh.ufl.edu/>

Day 2

Read the Introduction & Basics, pgs xi - 71 in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Location: TBD

Weeks 3 & 4:

Read Part II: Rendering Basics, pgs 93 – 178, in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Day 1 Project One Animals and Backbones

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 2 Illustrating Animals and Backbones continued

Location: TBD

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 3 Illustrating Animals and Backbones continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Location: TBD

Day 4 Illustrating Animals and Backbones continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Weeks 5 & 6:

Read Part III: Subject Matter, pgs 187 – 302, in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Day 1 Location: TBD (Loggerhead)

Class Discussion. Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Media: Graphite, Pen & Ink, & Gouache

Day 2 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 3 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 4 Illustrating continued. Class Discussion.

Weeks 7 & 8

Continue to read Part III: Subject Matter, pgs 303 – 320, in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Location: TBD (Animal Wildlife Center)

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Media: Graphite, Pen & Ink, & Gouache

Day 2 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 3 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 4 Illustrating continued

Weeks 9 & 10

Continue to read Part III: Subject Matter, pgs 332 – 357, in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Location: TBD (Nature Conservancy)

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Media: Graphite, Pen & Ink, & Gouache

Day 2 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 3 Illustrating continued

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 4 Illustrating continued

Weeks 11 – 13

Location: TBD

Continue to read Part III: Subject Matter, pgs 358 – 377, in Elaine R.S. Hodges. GNSI Handbook of Scientific Illustration

Media: Graphite, Pen & Ink, & Gouache

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Day 2 Illustrating continued

Day 3 Illustrating continued

Day 4 Illustrating continued

Day 5 Illustrating continued

Day 6 Class Discussion & Group Critique

Weeks 14 - 15

Location: TBD

Sketch and digitally capture (ipad, digital camera or smart phone) reference materials.

Media: Graphite, Pen & Ink, & Gouache

Day 2 Illustrating continued. Complete and develop powerpoint presenation.

Day 3 Final Presentations

Day 4 Final Presentations

**Students will need the following:**

* Journal Blank book of 50 to 100 pages
* Digital camera and/or video camera
* Portfolio Binder (professional carrying case) <http://www.dickblick.com/categories/portfolios/>
* Painting brushes (Round & Flat) Kolinsky Sable brushes: Winsor & Newton #7 series; Da Vinci Maestro series 10 or 35; Raphael series 8404
* Drawing/painting surfaces (Vellum, illustration board, tracing paper, photographic paper)
* Pigments/paints (acrylics, watercolor, gouache, ink)
* Paper towels and/or cloth
* Graphite pencils (6B, 4B, 2B, H, 2H, 4H, 6H)
* Pencil sharpener, Sandpaper Block
* Blending stumps
* Ruler (6” and 12 “), or L-shape or T-Square
* French Curves (Helix, C-Thru, Alvin)
* Scissors
* Low Tack Artist’s Tape
* White Glue or gel medium
* Protractor
* Watercolors (tubes or dry)
* Gouache
* Colored Pencils (Derwent or Prismacolor, Verithin, Faber-Castell or Cran d’Ache)
* Knead Eraser & White Eraser
* Measuring instruments (Yardsticks/rulers/measuring tape)
* Storage/carrying box for materials
* Jars, bags & folders for collecting specimens
* 4G to 8G flash drive
* Tackle box or art carrying case

Items that are highly or just recommended but not required:

* Laptop or iPad – Recommended but not required
* Compass – Recommended but not required
* Binoculars & Magnifying glass and/or Magnifying Loop – Highly recommended but not required
* Field guide about the Florida wildlife – Recommended but not required
* Folding chair – Recommended but not required
* Sun Umbrella or hat - Highly recommended but not required
* Sunglasses - Highly recommended but not required

**Art Stores & on-line sources**

Dick Blick Art Materials: www.dickblick.com

Daniel Smith: www.danielsmith.com

Jerry’s Artarama: www.jerrysartarama.com

Michael’s Art & Craft Store: www.michaels.com

Pearl Paint: www.pearlpaint.com

Utrecht: www.utrechtart.com

**Bibliography**

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Heinemann Title; 4th ed., 1998

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Student Consult online Access, 2e. Churchill Livingstone

Elphick, Jonathan. (2004) Birds: The Art of Omithology. Criptum Editions

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Physiology 5th ed. W.H. Freeman & Co Ltd., 2001

Fish, John and Susan Fish. A Student’s Guide to the Seashore. Cambridge: Cambridge University Press; 3rd

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Phaidon Press

Hallock, Thomas. (2010) William Bartram: The Search for Nature’s Design: Selected Art, Letters, and

Unpublished Writings. University of Georgia Press.

Hanbury-Tennison, Robin (2010) The Great Explorers. Thames and Hudson

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Konig, Horst and Hans-Georg Liebich. Veterinary Anatomy of Domestic Mammals: Text Book and Colour

Atlas. Germany: Manson Publishing, Ltd, 2004.

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Stamford Raffles. UK: British Library Publishing Division, 2009

Robin, Harry. (1992) *The Scientific Image from Cave to Computer.* New York: Abrams.

Thurstan, Meriel and Martin, Rosie. (2009) Natural History Painting: With the Eden Project. London:

Batsford Press

Wood, Phyllis. (1994) Scientific Illustration: A Guide to Biological, Zoological, and Medical Rendering

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