COMMUNICATION ARTS, BACHELOR OF FINE ARTS (B.F.A.) WITH A CONCENTRATION IN SCIENTIFIC ILLUSTRATION

The concentration in scientific illustration is designed for students who seek to develop the artistic skills and visual communication strategies necessary to effectively present complex and detailed scientific information.

The program requirements combine art and design courses with science courses to develop a broad base of scientific understanding and refined artistic aptitude.

Communication arts courses for the concentration focus on drawing from observation, traditional media techniques and digital tools for rendering realistic representations, layout and typography principles, practice in scientific illustration, and sequencing images effectively, as well as a number of electives in which students may develop personal interests.

The approved science courses are listed in the course requirements and include options in several departments to allow students to focus on an area of specialty or to become familiar with a broad foundation of scientific concepts.

Students will need to plan their academic study efficiently in order to include the appropriate science courses (minimum of seven) into the academic requirements for the B.F.A. degree. Seeking advisement during the process is highly recommended.

Students whose intention is to establish a professional career in medical illustration should refer to the minor in scientific illustration for information and strategies on how best to accomplish this goal.

Student learning outcomes

- Students will demonstrate proficiency in drawing, including the figure.
- Students will demonstrate conceptual and critical thinking.
- Students will articulate conceptual and visual ideas to communicate content.
- Students will demonstrate competence in the use of traditional media.
- Students will demonstrate competence in the use of digital media and emerging technologies.
- Students will demonstrate knowledge of the historical and current context of communication arts.
- Students will demonstrate ethical and professional practices.

Special requirements

A cumulative GPA of 2.5 in the major is expected for continuance in the program.

Degree requirements for Communication Arts, Bachelor of Fine Arts (B.F.A.) with a concentration in scientific illustration

General Education requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>UNIV 111</td>
<td>Play course video for Focused Inquiry I</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 112</td>
<td>Play course video for Focused Inquiry II</td>
<td>3</td>
</tr>
<tr>
<td>UNIV 200</td>
<td>Inquiry and the Craft of Argument</td>
<td>3</td>
</tr>
<tr>
<td>Approved humanities/fine arts</td>
<td>3</td>
<td></td>
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<tr>
<td>Approved natural/physical sciences</td>
<td>4</td>
<td></td>
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<tr>
<td>Approved quantitative literacy</td>
<td>4</td>
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<tr>
<td>Approved social/behavioral sciences</td>
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Additional general education requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tr>
<td>BIOL 151 &amp; BIOZ 151</td>
<td>Introduction to Biological Sciences I and Introduction to Biological Science Laboratory I</td>
<td>4</td>
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<tr>
<td>BIOL 152 &amp; BIOZ 152</td>
<td>Introduction to Biological Sciences II and Introduction to Biological Science Laboratory II</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 101 &amp; CHEZ 101</td>
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<td>Total Hours</td>
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Collateral requirements

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<tr>
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<th>Title</th>
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<tr>
<td>ARTF 131</td>
<td>Drawing Studio</td>
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<tr>
<td>ARTF 132</td>
<td>Surface Research</td>
<td>3</td>
</tr>
<tr>
<td>ARTF 133</td>
<td>Space Research</td>
<td>3</td>
</tr>
<tr>
<td>ARTF 134</td>
<td>Time Studio</td>
<td>3</td>
</tr>
<tr>
<td>ARTF 139</td>
<td>Project</td>
<td>2</td>
</tr>
<tr>
<td>ARTH 103</td>
<td>Survey of Art I</td>
<td>3</td>
</tr>
<tr>
<td>ARTH 104</td>
<td>Survey of Art II</td>
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<tr>
<td>Select courses from approved list below.</td>
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<tr>
<td>Total Hours</td>
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Major requirements

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<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>COAR 201</td>
<td>Drawing Studies: The Figure Observed</td>
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<tr>
<td>COAR 202</td>
<td>Drawing Studies: The Figure in Context</td>
<td>3</td>
</tr>
<tr>
<td>COAR 203</td>
<td>Digital 3D Studio</td>
<td>3</td>
</tr>
<tr>
<td>COAR 300</td>
<td>Illustration: Drawing and Painting</td>
<td>3</td>
</tr>
<tr>
<td>COAR 320</td>
<td>Concept Drawing</td>
<td>3</td>
</tr>
<tr>
<td>COAR 321</td>
<td>Sequential Imaging</td>
<td>3</td>
</tr>
<tr>
<td>COAR 332</td>
<td>Digital Drawing</td>
<td>3</td>
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</tbody>
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Communication Arts, Bachelor of Fine Arts (B.F.A.) with a concentration in scientific illustration

COAR 341  Scientific Illustration  3
COAR 352  History of Visual Communications I  3
COAR 353  History of Visual Communications II  3
COAR 450  Business of Communication Arts (or ARTS 351)  3
COAR 464  Senior Portfolio  3
COAR upper-level electives (300 or 400-level)  18
Total Hours  54

The minimum total of credit hours required for this degree is 120.

Approved science electives
Course  Title  Hours
BIOL 205  Basic Human Anatomy  4
BIOL 320  Biology of the Seed Plant  4
BIOL 322  Economic Botany  3
BIOL 332  Environmental Pollution  3
BIOL 333  Evolution of the Angiosperms  3
BIOL 335  Global Change Biology  3
BIOL 341  Human Evolution  4
ENVS 103  Environmental Science  4
ENVS 105  Physical Geology  3
ENVS 201  Earth System Science  3
ENVS 301  Introduction to Meteorology  3
ENVS 310  Introduction to Oceanography  3
PHIS 206  Human Physiology  3
PHYS 101  Foundations of Physics  3
PHYS 107  Wonders of Technology  4

What follows is a sample plan that meets the prescribed requirements within a four-year course of study at VCU. Please contact your adviser before beginning course work toward a degree.

Freshman year
Fall semester  Hours
ARTF 131  Drawing Studio  3
ARTF 132  Surface Research  3
ARTF 139  Project  1
ARTH 103  Survey of Art I  3
MATH 151  Precalculus Mathematics (fulfills University Core quantitative literacy requirement)  4
UNIV 111  Focused Inquiry I  3
Play course video for Focused Inquiry I  3
Term Hours:  17

Spring semester
ARTF 133  Space Research  3
ARTF 134  Time Studio  3
ARTF 139  Project  1
ARTH 104  Survey of Art II

Sophomore year
Fall semester
BIOL 151 & BIOZ 151  Introduction to Biological Sciences I and Introduction to Biological Science Laboratory I  4
COAR 201  Drawing Studies: The Figure Observed  3
COAR 203  Digital 3D Studio  3
COAR 352  History of Visual Communications I  3
 Humanities/fine arts course (University Core)  3
Term Hours:  16

Spring semester
BIOL 103  Environmental Science (fulfills the University Core natural/physical sciences requirement)  4
CHEM 101 & CHEZ 101  General Chemistry I and General Chemistry Laboratory I  4
COAR 202  Drawing Studies: The Figure in Context  3
COAR 353  History of Visual Communications II  3
UNIV 200  Inquiry and the Craft of Argument  3
Term Hours:  17

Junior year
Fall semester
BIOL 152 & BIOZ 152  Introduction to Biological Sciences II and Introduction to Biological Science Laboratory II  4
COAR 300  Illustration: Drawing and Painting  3
COAR 332  Digital Drawing  3
COAR upper-level elective (300 or 400-level)  3
Science elective (from approved list)  3-4
Term Hours:  16-17

Spring semester
COAR 320  Concept Drawing  3
COAR 341  Scientific Illustration  3
COAR upper-level elective (300 or 400-level)  3
Science elective (from approved list)  3-4
Term Hours:  12-13

Senior year
Fall semester
ARTS 351  3
COAR 321  Sequential Imaging  3
COAR upper-level electives (300 or 400-level)  6
Science elective (from approved list)  3-4
Term Hours:  15-16

Spring semester
COAR 464  Senior Portfolio  3
COAR upper-level electives (300 or 400-level)  6
Various drawing and painting media will be explored. Considerations and issues involved in the use of drawing and painting will be addressed.

**COAR 300. Illustration: Drawing and Painting. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 131. A course in drawing from direct observation of specific references: visual analysis, surface light and color, structure, and context. Various painting and drawing media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 201. Drawing Studies: The Figure Observed. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 131. Enrollment is restricted to communication arts majors. Students will study and explore how to draw from direct observation using the figure as the primary means to understand proportion, volume and spatial relationships. Class will include skeletal structure, basic anatomy and physical aspects of the figure. Various drawing and painting media will be explored. Specific assignments will be informed by the reference and use of the figure in the history of art and contemporary developments.

**COAR 202. Drawing Studies: The Figure in Context. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 131. Enrollment restricted to communication arts students. Drawing from direct observation using the figure as the primary means to understand proportion, volume and spatial relationships. Specific problems will include the figure as a dynamic element in different lighting, spatial and conceptual contexts. Various drawing and painting media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 203. Digital 3D Studio. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Enrollment is restricted to majors and minors in the Department of Communication Arts. The course focuses on the use of 3D software as a powerful drawing tool and current methodologies. Modeling, surfacing, lighting, rendering and applicability to industry and personal expression will be addressed.

**COAR 210. Visual Studies: Design. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: ARTF 132 and 133. A course in which an understanding of the relationship between form and communication is developed. The student will develop an awareness and appreciation for visual imagery as a tool for the transmission of information and ideas.

**COAR 211. Fundamentals of Typography. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 132. An introduction to the study of typography as used in communication arts. Course will include the study of hand-drawn and digital letterforms and their context. Students will be introduced to professional digital methods (e.g., Illustrator).

**COAR 300. Illustration: Drawing and Painting. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 202. Explores and addresses formal, conceptual and technical considerations and issues involved in the use of drawing and painting. Various drawing and painting media will be explored.

The minimum total of credit hours required for this degree is 120.

**COAR 200. Visual Studies: Drawing. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 131. A course in drawing from direct observation of specific references: visual analysis, surface light and color, structure, and context. Various painting and drawing media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 211. Fundamentals of Typography. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: ARTF 132. An introduction to the study of typography as used in communication arts. Course will include the study of hand-drawn and digital letterforms and their context. Students will be introduced to professional digital methods (e.g., Illustrator).

**COAR 300. Illustration: Drawing and Painting. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 202. Explores and addresses formal, conceptual and technical considerations and issues involved in the use of drawing and painting. Various drawing and painting media will be explored.

**COAR 301. Drawing Studies: The Figure (Intermediate). 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. May be repeated for up to 6 credits. Prerequisite: COAR 201. Drawing from direct observation at the intermediate level using the figure as the primary means to understand proportion, volume and spatial relationships. Various drawing and painting media will be explored.

**COAR 302. Print Media. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 202. An intermediate course in the use of printing processes and techniques to develop communicative imagery. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 303. Color Theory and Practice. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 300. An intermediate course in the application of color theory to specific illustrative problems. A number of color theories, both historical and contemporary, will be studied and applied.

**COAR 304. Illustration Media and Techniques. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 200 and 202. Explores various mixed-media techniques, including both two- and three-dimensional approaches to illustrative problems.

**COAR 305. Figure in Illustration. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 202. An introduction to the visual representation of the human form as it applies to illustration.

**COAR 307. The Face. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 201 and COAR 202. Employing a variety of drawing media, students will explore the nuances of the human face as a subject. This course focuses on both process and the realization of final projects.

**COAR 311. Type and Image. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 211. An advanced course that explores graphic design with an introduction to digital methods as a means to express and communicate ideas. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 312. Art Direction. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 210 and COAR 211. An introduction to the creative and logistical concerns of art direction, with special focus on the methodological best practices for developing compelling visual concepts, organizing workflow and arriving at unique design solutions. The course includes an introduction to professional-level digital tools and their relevant application.

**COAR 320. Concept Drawing. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 202. Explores the use of drawing as a tool to communicate concepts. Various painting and drawing media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.

**COAR 321. Sequential Imaging. 3 Hours.**
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: junior standing in communication arts. Sequential imagery as applied to books, graphic novel and film storyboarding. Various painting and drawing media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.
COAR 325. Botanical Drawing. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 300. This course explores plant life from direct observation and analytical drawing. Students examine the major divisions and structures of plants and how to depict their unique form.

COAR 326. Imagery for Science Fiction and Fantasy. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 300 and 320. This course focuses on assignments for science fiction/fantasy subject matter and its various commercial applications.

COAR 327. Comics and Graphic Novels I. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 201 and COAR 202. This course develops skills essential for visual storytelling through comics and graphic novels.

COAR 328. Comics and Graphic Novels II. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 327. This course further develops skills essential to expanding understanding of visual storytelling through comics and graphic novels.

COAR 331. Photographic Principles in Visual Communications. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 210. A studio course that explores the use of the camera, from pinhole photography to digital imaging, and includes the introduction of digital methods (e.g., Photoshop) as tools used in visual communications.

COAR 332. Digital Drawing. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 201 and COAR 202. An intermediate course exploring the use of computer and peripheral devices in the creation of personal work. Students will be introduced to relevant conceptual themes and professional methods and practices.

COAR 333. Web Page Design. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 210, COAR 211 and permission of instructor. A course developing the design of websites. Emphasis is placed on the visual design, navigation, development, communication and authoring of websites.

COAR 341. Scientific Illustration. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. An introductory course in the development of accurate representational imagery for recording scientific observations and ideas.

COAR 352. History of Visual Communications I. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: ARTH 103 and 104. An examination of the historical developments in visual communications from cave paintings to modernism.

COAR 353. History of Visual Communications II. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisites: ARTH 103 and 104. An examination of the historical developments in visual communications from modernism to the contemporary era.

COAR 391. Communication Arts Topics. 1-3 Hours.
Semester course; 1-3 lecture hours. 1-3 credits. May be repeated for a maximum of 12 credits. Topical lectures in design issues and visual communications.

COAR 392. Research/Individual Study. 1-6 Hours.
Semester course; 1-2 lecture and 3-6 studio hours. 1-6 credits. May be repeated for a total of 6 credits. Enrollment requires permission of instructor, approval of faculty adviser and chair. The structuring, research, execution and presentation of an independent project in visual communications under the direction of a faculty adviser. The student will be encouraged to become a self-generating problem solver and seeker with the ability to carry out self-stated goals.

COAR 401. Drawing Studies: The Figure (Advanced). 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. May be repeated for up to 12 credits. Prerequisite: COAR 301 or permission of instructor. Drawing from direct observation at an advanced level using the figure as the primary means to understand proportion, volume and spatial relationships. Various drawing and painting media will be explored.

COAR 407. Senior Project. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 300 and COAR 320. Enrollment restricted to students with senior status in communication arts. Focuses on the assessment and advancement of studio techniques, methods and practices. Students document and share their decision-making processes in the generation of creative projects.

COAR 420. Graphic Essay. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: UNIV 200 or HONR 200 and COAR 320. An advanced course that explores the relationship between text and image, and their potential as tools to enable us to create and communicate effectively. Assignments will incorporate applicable references to the history of art and literature.

COAR 421. Imagery for Children. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 300 and 320. An advanced course developing both fiction and nonfiction illustrations intended for the preschool and elementary school children's publishing market.

COAR 422. Editorial Illustration II. 4 Hours.
Semester course; 3 lecture and 3 studio hours. 4 credits. Prerequisites: COAR 300 and 320. An advanced course developing the student's skill at interpreting an author's manuscript. The major emphasis is given to illustrations appearing in books and magazines.

COAR 432. 3-D Image and Movement. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Course restricted to majors in the School of the Arts. Course addresses current technological tools to explore the relationship between image, object and movement.

COAR 433. Game Design, Theory and Practice. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 432. Students will study the history, theory and design of games, gaming concepts and narrative from past to present.

COAR 435. Organic 3-D Modeling for Concept Design. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 432. A focus on the use of high polygraph 3-D graphics software as tools to create highly detailed computer models for concept design, movies, broadcast media and games.

COAR 441. Scientific Illustration II. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisite: COAR 341. An advanced course in the development and creation of accurate documentation and representation of scientific information and imagery including plant taxonomy, insect morphology, and physiological and pathological processes.
COAR 450. Business of Communication Arts. 3 Hours.
Semester course; 3 lecture hours. 3 credits. Prerequisite: UNIV 200 or HONR 200. The study of business management with an emphasis on ethics and the standards of fair practice including financial and contractual guidelines.

COAR 462. Projects in Illustration. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: senior standing in communications arts and permission of the instructor. An advanced-level course in conceptualization, execution, realization and documentation as realized through a series of projects in illustration. Students will be required to create, acquire and structure projects that will test their conceptual and technical abilities. Project work will be exhibited, documented or printed. Various drawing, painting and mixed media will be explored. Assignments will incorporate applicable references to the history of art and contemporary developments.

COAR 463. Communication Arts Honors Studio. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. May be repeated for up to 12 credits. Prerequisites: junior standing in communication arts, 3.0 GPA and permission of the CA faculty. An advanced course for selected students. Expectations include to work on individual and group projects at a professional level.

COAR 464. Senior Portfolio. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. Prerequisites: COAR 300 and COAR 320. Enrollment restricted to students with senior status in communication arts. Focuses on the curation and evolution of a portfolio that aligns with the student’s professional goals. Integrates effective oral, written and visual communication, critical-thinking and advanced studio and professional practices.

COAR 491. Studio Topics in Communication Arts. 3 Hours.
Semester course; 2 lecture and 3 studio hours. 3 credits. May be repeated for credit. Topical studio focusing on research and experimentation in specialized visual communication media.

COAR 492. Communication Arts Internship. 1-6 Hours.
Semester course; 1-6 credits. May be repeated for a maximum of 12 credits. Prerequisites: senior standing, 3.0 GPA or permission of the chair. Supervised pragmatic work experiences. Training is provided under the direction and supervision of qualified professional practitioners.