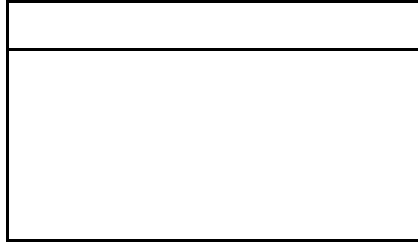


ratory therapy. Entrance requirements vary among professional respiratory therapy programs. Not all professional programs accept transfer credits. Therefore, interested students should contact the



Undergraduate Programs

BS in Clinical Laboratory Science—190

General Education requirements (Adjustments for BSCLS) 50

Computer Science	0
Computer competency in major course work	
Mathematics	4
College algebra competency plus one math course. AU students—statistics. Students transferring into clinical program—any college-level course	
Physical/Natural Sciences: see cognate sciences below	
Religion	16
(or one course per year of residence)	
Service	2
Fieldwork—fulfilled through 32 credits of clinical practicums.	
Wellness	3
HLED130. Must also pass a physician-administered physical exam before advancement to clinical practicums	

Cognate Science Requirements 44

BIOL155; BIOL 156 and 157 (or 111, 112), and 5 credits of relevant BIOL, PHTH, or ZOOL courses; CHEM121, 122, 123, 211, 212, 213.

Major Requirements 84

Prerequisites 15
MTCH105, 106, 215, 235, 245, 255

Major courses 69
MTCH345, 400, 401, 402, 410, 411, 412, 413, 421, 422, 431, 432, 433, 441, 442, 443, 451, 452, 454, 461, 462, 490, 495.

Directed electives 8-16

Students select courses in consultation with and by the consent of their advisers in a planned program to enhance professional preparation. Courses are chosen from biology, business, chemistry, computer science, electronics, and education. Pre-medical/pre-dental students must include PHYS151, 152, 153 General Physics (12 credits).

BS: Allied Health Administration

This degree is designed for health-care professionals seeking to enhance the knowledge they already have and to help them prepare for future career employment requirements. The degree format features a strong general education and administrative/business component and provides an academic foundation for health-care administrative positions. It is open only to individuals holding an associate degree or a two-year certificate in an allied-health professional area with earned certification where applicable in such areas as diagnostic ultrasound, nuclear medicine, physician assistant, radiation therapy, radiologic technology, respiratory therapy, and special procedures in radiologic technology. Admission to the program is by permission of the Department of Allied Health chair.

Degree Requirements 190

- Transfer credits accepted from an AS degree or certificate program—51
- Credits from business and administrative component—41

- ALHE480 Practicum in Administration—4
- General Education Requirements* 81
Complete Bachelor of Science General Education requirements. See p. 24.
- Business/Administration Courses* 41
ACCT 111, 112, 113, BSAD341, 355, 384, 431, 432, ECON226. Select 8 credits from BSAD374, 436, 444, 460, 497, 498, MKTG310, 444.

Graduate Programs

MS in Clinical Laboratory Science

The Department of Allied Health offers a graduate program leading to the Master of Science in Clinical Laboratory Science. In response to the diversity of career skills required by the clinical laboratory scientist (medical technologist), the degree features a variety of program emphases, including concentrations in biomedical sciences, business and management, computer information science, and education.

Admission requirements. In addition to the minimum general requirements for admission to a graduate program listed in the graduate admission section of this bulletin, the following are departmental requirements:

- Applicants' previous course work must include 24 quarter credits of biological sciences, 24 quarter credits of chemistry, and one college-level course in mathematics. Deficiencies must be removed prior to admission to the graduate program.
- Applicants must hold professional certification

A study of medical terminology and an introduction to the health professions including job descriptions and professional organizations with special emphasis on clinical sciences.

MTCH106 (1)

Introduction to Clinical Sciences Laboratory

Exercises from major clinical laboratory sciences disciplines are performed. Weekly: One 2-hour lab. Prerequisite or corequisite: MTCH105.

MTCH215 \$ (3)

Fundamentals of Hematology and Hemostasis

Introduces the production, maturation, and function of various blood cells. Manual and semi-automated blood-cell counts and indices, different leukocyte counts, erythrocytic sedimentation and special staining techniques. Introduction to the coagulation system with analysis of selected coagulation factors using various analytical techniques. Correlation of clinical and laboratory data in select pathologies. Weekly: 3 lectures and 1 lab.

MTCH235 \$ (4)

Fundamentals of Clinical Microbiology

Orientation to the clinical microbiology laboratory; specimen selection, collection, and transport; microscopic evaluation; stains and sterilization techniques; media and incubation selections; identification of routine and nonroutine microorganisms; susceptibility testing; automation and quality assurance. Weekly: 2 lectures and 2 labs.

MTCH245 \$ (2)

Fundamentals of Immunohematology

An introduction to blood grouping and typing, blood-group antigen systems, compatibility testing, antibody identification, and quality control. Weekly: 1 lecture and 1 lab.

MTCH255 \$ (4)

Fundamentals of Clinical Chemistry

Clinical lab procedures, safety, math, application of statistical procedures in quality control, and principles of clinical laboratory instrumentation.

Extended Clinical Practicums

An 8-week professional health-care laboratory practicum. Emphasis in patient-care applications. Subject areas are to be coordinated with the Clinical Site Education Coordinator and the Program Director. Graded S/U. Prerequisite: Successful completion of the 24-week clinical practica of the Clinical-Year Program and permission of Program Director.

MTCH521, 522, 523 (1,1,1)**Seminar in Clinical Laboratory Science**

Cooperative research into topics of current interest in the literature. Each quarter the student prepares presentations based on current readings. Faculty and guest lecturers also contribute to the seminar series. Admission by permission of the Graduate Program Coordinator.

MTCH525 (6-12)**Advanced Studies in Clinical Laboratory Science**

Designed in consultation with and coordinated by the area specialty adviser. Cumulative report, presentation, and defense required. Prerequisite: Certification and/or licensure as a clinical laboratory scientist and permission of the Graduate Program Coordinator. Repeatable to 12 credits. Clinical placement depends on clinical site availability.

MTCH595 (1-4)**Independent Study/Readings/Research Project**

Topics may be from immunology, immunohematology, clinical chemistry, hematology, microbiology, other areas of patient-care science, medical technology education, management, or applications especially relevant to clinical laboratories. Repeatable in a different subject area. Independent readings earn S/U grades. Prerequisite: Permission of Graduate Program Coordinator.

ART, ART HISTORY, AND DESIGN

Art Center, Room 202
(616) 471-3279
art-info@andrews.edu
<http://www.andrews.edu/ART/home.html>

Faculty

Gregory J. Constantine, *Chair*
Steven L. Hansen
Cheryl J. Jetter
Robert N. Mason
Rhonda Root

Academic Programs	Credits
BFA: Design and Photography Digital Art and Design Graphic Design Photography	118
BFA: Visual Arts Ceramics Painting Pre-Art Therapy Printmaking	118
BA: Art Art History Pre-Art Therapy Visual Art	47 63 67
BS: Art Education Minor in Art History Minor in Graphic Design Minor in Visual Art	68 30 32 30

It is the mission of the Department of Art, Art History, and Design to develop our God-given creative gifts in order to integrate our personal, spiritual, and professional lives.

Undergraduate Programs

BFA: Design and Photography—118

The Bachelor of Fine Arts degree is recommended for students planning to enter one of the visual-art professions and/or to do graduate work in visual art or art therapy. The studio-oriented BFA program requires 118 credits of visual-art and art-history courses plus the General Education courses. Central to the BFA curriculum is 38-48 credits of advanced design or visual-art work in a single emphasis. The process for entering a BFA program is two-fold. First, students are accepted into the BA degree program of the Department of Art, Art History, and Design. Upon completion of the introductory-level courses and successful BFA review (no later than the end of their sophomore year), students can be accepted into the BFA program.

BFA 16-credit Complementary Area Requirement: Each of the BFA degree emphases has a 3-part curriculum: (1) Art History; (2)

Visual Art Foundation; and (3) Advanced Visual Art. Additional cognates along with the General Education requirements complete the specifications for graduation for the BFA degrees.

BFA students must take courses beyond the introductory level in an area(s) which complement(s) their chosen media emphasis. For example, if the 38-credit emphasis is ceramics (3-dimensional), then the complementary area may be painting and/or printmaking (2-dimensional); and conversely, if the 38-credit emphasis is painting (2-D), then the complementary area may be sculpture and/or ceramics (3-D). The photography emphasis may allow 8 credits of graphic design (ART214 and 414) to be substituted to meet the complementary area requirement. The Graphic Design complementary area is shaped with the student's adviser and may include such areas as computer graphics, photographic arts, marketing, and communication.

Digital Art and Design Emphasis (2-D)

The digital art and design emphasis is recommended for those wishing to combine the study of art and design with the opportunity to explore more extensively computer graphics environments as a medium for visual communication and/or personal artistic expression.

The degree prepares students to enter one of the computer-based visual communication-oriented professions educated as an artist or designer/visual communicator, or to enter graduate studies in electronic visualization.

Art History—16

ART 235, 236, 440, one ARTH elective.

Visual Art Foundation—32

ART104, 105, 106, 207, 208, 300, 304; PHTO 115.

Digital Media Foundation—22

COSC125; DGME180, 255, 310, 320; an elective in consultation with adviser (2 credits).

Advanced Digital Media—48

ART214, 314, 414 (24 credits), 495 Senior Exhibition and Slide Portfolio, 1; DGME320, 355; electives in consultation with adviser (7 credits).

Graphic Design Emphasis (2-D)

The BFA in Graphic Design (design for visual communication) is a specialized curriculum recommended for those who plan to enter one of the visual-communication design or electronic (computer-oriented) visualization professions.

The visual art and design courses develop strong hand-eye coordination skills and a direct feeling for materials and form, along with an understanding of professional design process. The art-history courses develop intellectual breadth and critical perspectives needed to inform the design process. The graphic arts provide a foundation in the technologies of the profession.

Art History—16

ARTH235, 236, 440, ARTH elective

Visual-Art Foundation—36

ART104, 105, 106, 107 or 108, 207, 208, 300; one ARTH elective. Select two from ART304; PHTO115, 206.

Graphic Arts Foundation—18

DGME180, 200, 310; 5 credits of electives chosen in consultation with adviser

Advanced Graphic Design—41

ART214, 314, 414 (32 credits); 495 (Senior exhibition and slide portfolio, 1).