

COLLEGE OF ARTS AND SCIENCES

Degrees, Programs and Block Schedules

The College of Arts and Sciences offers undergraduate degrees and programs in the departments of Art, Biology, Chemistry, Classics, Communication Arts, English, History, Mathematics and Computer Science, Modern Languages, Music, Philosophy, Physics, and Theology. Graduate degrees are offered in the departments of English, and Theology, and in the area of Humanities.

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THE DEPARTMENT OF ART

The Department of Art offers two degrees, the Bachelor of Arts and the Bachelor of Fine Arts, as well as minors in Studio Art and Art History.

FACULTY

Faculty: MS. KARAGHEUSIAN-MURPHY, *chair*; MS. CHOUTEAU, MR. FRANZ, BR. PRYOR

Adjunct Faculty: MS. COPFER, MR. MARTENS, MS. SHIVES, MS. TERRILL, MS. UETZ

Introductory courses (or equivalent with permission of the instructor) are prerequisites for all advanced courses.

Courses numbered 500 or above are for graduate students only. All studio courses may be taken for graduate credit.

BACHELOR OF ARTS DEGREE IN ART

The Department of Art fosters an integrated way of life in which the student, through art experiences, grows in awareness and response to both spiritual and material values.

The potential artist has opportunity for studio practice in one of the following concentrations: ceramics, drawing, fibers, graphics, painting, printmaking, and sculpture. Studies in art history are required of each major. Students who wish to be licensed as teachers follow a special program for licensure. Students interested in careers as art therapists are advised to follow a pre-art therapy program.

Requirements for the Art Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Sciences: CHEM 106-109 recommended.
- Fine arts requirement included within major.

Major Requirements:

- 52 credit hours of art courses: 10 credit hours in Level I Foundation, 9 credit hours in Level II Foundation, 3 elective credit hours, 9 credit hours in Art History, and a 3 credit hour exit seminar. A minimum of 4 courses (12 credit hours) in one area of study leading to a 6 credit hour senior concentration and exhibition are required. Concentrations must be arranged with the approval of the concentration advisor.
- In the spring semester of the sophomore year the prospective art major will present a portfolio for evaluation. Acceptance or rejection from the Department of Art will be based upon this evaluation.
- A minimum grade of "C" must be attained in all art courses to count toward an art major degree. A minimum grade of "B" must be attained in ARTS 221/521 and ARTS 223/523 for those pursuing art licensure.

A recommended program sequence is available for each of the concentrations. Art licensure requires an additional 28 hours of education courses as well as 53 semester hours in art for a pre-K - 12 license. Please direct requests and/or questions to the department chair.

B.A. Art

Suggested sequence of courses for a BA degree in Art with a concentration in any area. This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

ARTS 100, Seminar	1	ARTS 105, 3D Design	3
ARTS 101, 2D Design	3	Level II Art Foundation	3
ARTS 102, Drawing	3	Math Elective	3
Math Elective	3	Foreign Language Elective	3
Foreign Language Elective	3	ENGL 101 or 115, Engl Comp or Rhetoric .	3
PHIL 100, Ethics as Intro to Phil	3		
Total	16	Total	15

Sophomore Year

Level II Art Foundation	3	Art Elective	3
Level II Art Foundation	3	Concentration Elective	3
ARTS 270, History of Art I	3	ARTS 271, History of Art II	3
PHIL 290, Theory of Knowledge	3	ENGL/CLAS 205, Lit & the Moral Imag	3
Literature Elective	3	THEO 111, Theological Foundations	3
Cultural Diversity Elective	1		
Total	16	Total	15

Junior Year

Concentration Elective	3	Concentration Elective	3
History of Art Elective	3	Theology Scrip/Hist or Christ Sys Elective .	3
Philosophy Elective	3	Social Science Elective	3
Science Elective	3	Science Elective	3
E/RS Focus Elective	3	History II	3
History I	3		
Total	18	Total	15

Senior Year

Concentration Elective	3	ARTS 490, Senior Concentration	6
ARTS 441, Senior Seminar	3	Theology Ethics or Rel/Cult Elective	3
Science Elective	3	General Elective	3
Social Science Elective	3	General Elective	3
General Elective	3		
Total	15	Total	15

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core.
- A minimum of 120 credit hours is required for this degree.

REQUIREMENTS FOR THE ART HISTORY MINOR

- 18 hours required in art courses: ARTS 270, 271, 372, 373 and 6 hours of art electives (either design or humanities).
- A minimum grade of "C" must be attained in all art courses to count toward the minor.

REQUIREMENTS FOR STUDIO ART MINOR

- 18 hours of art courses providing a thorough investigation of any studio art discipline.
- A minimum grade of "C" must be attained in all art courses to count toward the minor.

Further information concerning art minors can be obtained from the Art Department.

BACHELOR OF FINE ARTS DEGREE IN ART

The BFA degree in Art is distinguished from the BA degree in Art by its intensity and structure. Students seeking a BFA degree in Art usually have full determination to pursue their livelihood as professional artists or are thinking of acquiring an MFA degree for university/college teaching. It is a higher degree and immediately acknowledges the fact that its recipient has experienced a deeper involvement in, and commitment to, art.

Requirements for the Bachelor of Fine Arts Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Sciences: CHEM 106-109 recommended.
- Fine arts requirement included within major.

Major Requirements:

- 73 credit hours of art courses: 10 credit hours in Level I Foundation, 15 credit hours in Level II Foundation, 9 elective credit hours, 12 credit hours in Art History and a 3 credit hour exit seminar. A minimum of 6 courses (18 credit hours) in one area of study leading to a 6 credit hour senior concentration and exhibition are required.
- Concentrations must be arranged with the approval of the concentration advisor.
- In the spring semester of the sophomore year, at the time of the sophomore portfolio evaluation, students will express their intention of pursuing a BFA degree by delivery of a signed declaration form to the department chair, endorsed by the proposed concentration instructor.
- A minimum grade of "C" must be attained in all art courses to count toward an art major degree.

It should be noted that in order to complete a degree in the regular four-year sequence, a student would need to carry approximately 18 credit hours per semester. Most students seeking this degree, however, are very competent and would probably have some advanced standing in regard to the core. It is also usual for these students to take courses during the summer sessions.

A recommended program sequence is available. Please direct requests to the department chair.

B.F.A. Art

Suggested sequence of courses for a BFA degree in Art with a concentration in any area. This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

ARTS 100, Seminar 1	ARTS 105, 3D Design 3
ARTS 101, 2D Design 3	Level II Art Foundation 3
ARTS 102, Drawing 3	Level II Art Foundation 3
Math Elective 3	Math Elective 3
Foreign Language Elective 3	Foreign Language Elective 3
PHIL 100, Ethics as Intro to Phil 3	ENGL 101 or 115, Engl Comp or Rhetoric . 3
Total 16	Total 18

Sophomore Year

Level II Art Foundation 3	Level II Art Foundation 3
Level II Art Foundation 3	ARTS 271, History of Art II 3
ARTS 270, History of Art I 3	ENGL/CLAS 205, Lit & the Moral Imag 3
PHIL 290, Theory of Knowledge 3	Art Elective 3
Literature Elective 3	THEO 111, Theological Foundations 3
Social Science Elective 3	Philosophy Elective 3
Cultural Diversity Elective 1	
Total 19	Total 18

Junior Year

Art Elective 3	Concentration Elective 3
Concentration Elective 3	Concentration Elective 3
History of Art Elective 3	Concentration Elective 3
Concentration Elective 3	Theology Scrip/Hist or Christ Sys Elective . 3
Science Elective 3	Science Elective 3
History I 3	History II 3
Total 18	Total 18

Senior Year

Concentration Elective 3	ARTS 490, Senior Concentration 6
Concentration Elective 3	History of Art Elective 3
ARTS 441, Senior Seminar 3	Theology Ethics or Rel/Cult Elective 3
Science Elective 3	E/RS Focus Elective 3
Social Science Elective 3	
Total 15	Total 15

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core.
- A minimum of 134 credit hours is required for this degree.

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THE DEPARTMENT OF BIOLOGY

The Department of Biology, in cooperation with the Departments of Chemistry and Physics, offers these degrees and programs:

The Bachelor of Science in Biology

The Bachelor of Science in Applied Biology - Cooperative Forestry and Environmental Management Program

The Bachelor of Science in Natural Sciences (for premedical and pre dental students)

The Certificate in Pre-Medical Studies

The Bachelor of Science in Medical Technology

The Bachelor of Science in Teaching Life Sciences

- in cooperation with the Department of Education (see page 177)

The Associate of Science in Radiologic Technology

The Minor in Biology

The Minor in Natural Sciences

FACULTY

BIOLOGY

Faculty: DR. CHAMBERS, *chair*; DR. ANYONGE, FR. BAUMILLER, DR. CLOSE-JACOB, DR. ENGLE, DR. FINKE, DR. GROSSMAN, DR. HEDEEN, DR. JACOB, FR. MEIER, DR. PAULDING

Laboratory Instructors: MR. GEHNER, DR. LAINE, MR. NOURIAN, DR. ROBBINS

Coordinator of Pre-Professional Health Advising: MS RETTIG-PFINGSTAG

Adjunct Faculty: MR. PECQUET

MEDICAL TECHNOLOGY

Faculty: DR. JACOB, *program director*

Adjunct Clinical Instructors: MR. BARCZAK, DR. GRAETER, DR HALLQUIST, DR. MacPHERSON

RADIOLOGIC TECHNOLOGY

Faculty: MS. ENDICOTT, *program director*; DR. McCARTHY, M.D., *medical director*

Adjunct Faculty: MS. GRIMM, MR. HALLER, MR. KELLY, MS. NASH

BACHELOR OF SCIENCE DEGREE IN BIOLOGY

The biology curriculum includes courses which present current concepts of the molecular, cellular, organismal, and population levels of biological organization. Basic biological principles are presented through the study of animals, plants, and microorganisms. Laboratory sessions provide experience in careful observation, controlled experimentation, and thoughtful analysis of scientific data. The biology program provides preparation for further study at the graduate level or in the health professions (medicine, dentistry, veterinary medicine, podiatry, or optometry), as well as preparation for a teaching career or other specialized employment.

Requirements for the Biology Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 150 or 170; and 156.
- Science requirement specified by the major as:
 - 17 hours in chemistry courses: CHEM 160, 161, 162, 163, 240, 241, 242, 243.
 - 8 hours in physics courses: PHYS 160, 161, 162, 163.

Major Requirements

- 36 hours in biology courses: BIOL 160, 161, 162, 163, 230, 231, 410, 411, 498, 499.
- 16 hours of electives including at least one course from 222, 360, 440; at least one course from 240, 244, 250; and either one of these two lecture/ lab combinations: 210/211 or 450/451.
- A 2.000 cumulative average must be attained in the 36 hours of biology courses.

B.S. Biology

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

BIOL 160, General Biology I 3	BIOL 162, General Biology II 3
BIOL 161, General Biology I Lab 2	BIOL 163, General Biology II Lab 2
CHEM 160, General Chemistry I 3	CHEM 162, General Chemistry II 3
CHEM 161, General Chemistry I Lab 1	CHEM 163, General Chemistry II Lab 2
Foreign Language Elective 3	Foreign Language Elective 3
ENGL 101 or 115, Engl Comp or Rhetoric .. 3	PHIL 100, Ethics as Intro to Philosophy 3
Total 15	Total 16

Sophomore Year

Biology Electives 4	Biology Elective 4
CHEM 240, Organic Chemistry I 3	CHEM 242, Organic Chemistry II 3
CHEM 241, Organic Chemistry I Lab 1	CHEM 243, Organic Chemistry II Lab 1
MATH 150, Elements of Calculus I 3	MATH 156, General Statistics 3
THEO 111, Theological Foundations 3	ENGL/CLAS 205, Lit & the Moral Imag 3
Literature Elective 3	Cultural Diversity Elective 1
Total 17	Total 15

Junior Year

BIOL 410, Vertebrate Physiology 2	BIOL 230, Genetics 3
BIOL 411, Vertebrate Physiology Lab 2	BIOL 231, Genetics Lab 1
PHYS 160, College Physics I 3	PHYS 162, College Physics II 3
PHYS 161, Introductory Physics I Lab 1	PHYS 163, Introductory Physics II Lab 1
History I 3	PHIL 290, Theory of Knowledge 3
Theology Scrip/Hist or Christ Sys Elective . 3	History II 3
Total 14	Total 14

Senior Year

BIOL 498, Methods of Biol Research I 1	BIOL 499, Methods of Biol Research II 1
Biology Electives 2	Biology Electives 6
Theology Ethics or Rel/Cult Elective 3	E/RS Focus Elective 3
Philosophy Elective 3	General Elective 3
Social Science Elective 3	Social Science Elective 3
Fine Arts Elective 3	
Total 15	Total 16

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core.
- A minimum of 120 credit hours are required for this degree.

REQUIREMENTS FOR THE BIOLOGY MINOR

- 18 hours in biology courses: BIOL 160-163, plus an additional eight hours of lecture-lab courses selected from BIOL 200 - 451.
- A 2.000 cumulative average must be attained in all biology courses.

BACHELOR OF SCIENCE DEGREE IN APPLIED BIOLOGY

Xavier University - Duke University Cooperative Forestry and Environmental Management Programs

This program is designed to coordinate the education of undergraduate students at Xavier with graduate programs in the Duke University School of the Environment. Participating students are accepted into either of two Duke University degree programs, the Master of Forestry (MF) or Master of Environmental Management (MEM). The MF emphasizes forest resources, and graduates are typically employed in administrative, managerial, or staff positions with forest industries and government agencies. The MEM program considers natural resources in a broader context. Students find employment in such areas as resource development, environmental protection, impact assessment, land use analysis, and coastal zone management.

The curriculum which leads to the above degrees consists of six semesters of undergraduate study at Xavier University (similar to a Biology major) and four semesters of graduate study at Duke University School of the Environment. During the fall semester of the junior year at Xavier, the student applies for admission to the Duke University School of the Environment. The BS Applied Biology degree will be awarded by Xavier University upon satisfactory completion of one year of full-time study at Duke University. Upon satisfactory completion of the requirements for a master's degree, Duke University will award either the degree of MF or MEM, whichever is appropriate for the student's area of concentration at Duke University.

If a student is unable to enter Duke University, courses necessary for completion of requirements leading to the BS in Biology degree can be taken during the senior year.

Requirements for the Applied Biology Major

Core Curriculum Requirements

Cultural Diversity Elective	1	History Elective	6
ENGL 101 or 115	3	Social Sciences, including	
Philosophy PHIL 100 and 290	6	ECON 200	6
Theology THEO 111 and elective ..	6	Fine Arts Elective	3
Foreign Language Elective	6	Literature Elective	3
Mathematics MATH 150 and 151 ..	6	ENGL 205 or CLAS 205	3
E/RS Focus Elective	3		

which may also fulfill one of the core curriculum requirements above.

Major Requirements

- 27 hours of biology courses: BIOL 160, 161, 162, 163, 210, 211, 250, 251, 398, 450, 451, 498, 499.
- 23 hours: CHEM 160, 161 162, 163, ECON 320, MATH 156, PHYS 160, 161, 162, 163.
- A 2.000 cumulative average must be attained in all biology courses.
- One year of full time study at the Duke University School of the Environment.

BACHELOR OF SCIENCE DEGREE IN NATURAL SCIENCES

(preparation for medical or other health professional schools)

(For Pre-Medical and Pre-Dental Students)

The Natural Sciences curriculum presents a liberal arts program with emphasis on those sciences required for an excellent background for subsequent studies in medicine, dentistry, and similar health professions. Recurrent pronouncements by Committees on Admissions at professional schools leave no doubt that they regard an education in the liberal arts as one of the most important factors in forming a genuinely capable and effective health professional, but majoring in Natural Sciences is not a requirement for admission to a health profession. (See Natural Science minor and Certificate in Pre-Medical Studies on following page.) The student should consult a current listing of professional school admission requirements* so that the selected course of studies will assure the student of a degree and include all the minimum requirements for admission to those schools of medicine or dentistry to which he/she intends to apply.

Requirements for the Natural Sciences Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 150 and 156, 170 and 156, or 170 and 171.
- Social sciences: PSYC 101.
- Science requirement included within the major.

Major Requirements

- 51 hours in science courses: BIOL 160, 161, 162, 163, 230, 231, 354, 355, 410, 411, CHEM 160, 161, 162, 163, 220, 221, 240, 241, 242, 243, PHYS 160, 161, 162, 163.
- An additional 8 hours in biology or 8 hours in chemistry, to include two hours of research and the additional hours in electives. (See academic advisor for specific course selection.)
- A 2.000 cumulative average must be attained in all biology, chemistry and physics courses.

* "Medical School Admission Requirements," published by the Association of American Medical Colleges, or "Admission Requirements of U.S. and Canadian Dental Schools," published by the American Association of Dental Schools.

B.S. Natural Sciences

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

BIOL 160, General Biology I	3	BIOL 162, General Biology II	3
BIOL 161, General Biology I Lab	2	BIOL 163, General Biology II Lab	2
CHEM 160, General Chemistry I	3	CHEM 162, General Chemistry II	3
CHEM 161, General Chemistry I Lab	1	CHEM 163, General Chemistry II Lab	2
Foreign Language Elective	3	Foreign Language Elective	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	PHIL 100, Ethics as Intro to Philosophy ..	3
Total	15	Total	16

Sophomore Year

CHEM 240, Organic Chemistry I	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
PHYS 160, College Physics I	3	PHYS 162, College Physics II	3
PHYS 161, Introductory Physics Lab I	1	PHYS 163, Introductory Physics Lab II	1
MATH 150, Elements of Calculus I OR ..	3	MATH 156, General Statistics OR	3
MATH 170, Calculus I	4	MATH 171, Calculus II	4
THEO 111, Theological Foundations	3	ENGL/CLAS 205, Lit & the Moral Imag ..	3
		Cultural Diversity Elective	1
Total	14/15	Total	15/16

B.S. Natural Sciences, continued

First Semester *Credit Hours* *Second Semester* *Credit Hours*

Junior Year

BIOL 410, Vertebrate Physiology	2	BIOL 230, Genetics	3
BIOL 411, Vertebrate Physiology Lab	2	BIOL 231, Genetics Lab	1
CHEM 220, Principles of Physical Chem	3	BIOL 354, Vertebrate Anatomy	2
CHEM 221, Analytical Chemistry Lab	1	BIOL 355, Vertebrate Anatomy Lab	2
History I Elective	3	PHIL 290, Theory of Knowledge	3
Theology Scrip/Hist or Christ Sys Elective .	3	History II Elective	3
Literature Elective	3		
Total	17	Total	14

Senior Year

BIOL 498/CHEM 400		BIOL 499/CHEM 400,	
Biology or Chemical Research	1	Biological or Chemical Research	1
Biology or Chemistry Elective *	4	Biology or Chemistry Elective *	2
Theology Ethics or Rel/Cult Elective	3	Social Science Elective	3
Philosophy Elective	3	E/R&S Focus Elective	3
PSYC 101, General Psychology	3	General Elective	3
		Fine Arts Elective	3
Total	14	Total	15

* Student selects a senior year concentration of courses plus research in either biology or chemistry. Courses vary from year to year, so contact your academic advisor for current selections. Students concentrating in chemistry should add Chemical Literature, one hour, to junior year schedule.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for this degree.

**REQUIREMENTS FOR THE NATURAL SCIENCES MINOR
(PRE-MEDICAL)**

The Natural Sciences minor is designed for undergraduate students who wish to complete science courses generally required of applicants to medical school while completing a bachelor's degree in a non-science major.

- 35 hours of science courses including BIOL 160, 161, 162, 163, CHEM 160, 161, 162, 163, 240, 241, 242, 243, and PHYS 160, 161, 162, 163.
- A 2.000 cumulative average must be attained in these courses.

THE CERTIFICATE IN PRE-MEDICAL STUDIES

This certificate program is designed for students who are not seeking a degree, but who want to prepare for admission to medical school. Medical schools generally expect their applicants to have the equivalent of a bachelor's degree along with the four years of science courses required for this certificate. They are:

General Biology I and II (BIOL 160-163)	10
College Physics I and II (PHYS 160-163)	8
General Chemistry I and II (CHEM 160-163)	9
Organic Chemistry I and II (CHEM 240-243)	8

A student is eligible for a certificate if at least one half (17 credit hours) of the courses are completed at Xavier University with a minimum grade point average of 3.000. Interested students should consult with the chair of the Health Sciences Committee or the Coordinator of Pre-Professional Health Advising.

BACHELOR OF SCIENCE DEGREE IN MEDICAL TECHNOLOGY

The curriculum which leads to the BS degree in Medical Technology consists of three years of undergraduate study at Xavier University and the senior year at a NAACLS (National Accrediting Agency for Clinical Laboratory Sciences) accredited School of Medical Technology affiliated with Xavier University. (St. Elizabeth Medical Center, Covington, KY, or the University of Cincinnati Medical Center, Cincinnati, OH.)

The year of professional study at the hospital-based program consists of the following courses: Clinical Chemistry, Clinical Microscopy, Diagnostic Parasitology, Hematology, Immunology, Immunochemistry, Medical Microbiology, and Medical Mycology. After successful completion of the program of professional study, the student is awarded the Bachelor of Science by the University, and is then eligible for one of the certification examinations. Certification examinations are administered by the Board of Registry, American Society of Clinical Pathologists, and by the NAACLS.

A student may also elect to complete the Bachelor of Science degree in Biology or Natural Sciences, then apply to any hospital-based program in Medical Technology accredited by NAACLS.

If a student is unable to enter a program of Medical Technology at a hospital, arrangements should be made with the student's academic advisor to determine the senior year courses for completion of the requirements leading to a degree in Biology, Natural Sciences, or Chemical Science.

Requirements for the Medical Technology Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 150 or 170; and 156.
- Science requirement included within the major.

Major Requirements

- 46 hours of science courses: BIOL 160, 161, 162, 163, 222, 410, 411, 450, 451, CHEM 160, 161, 162, 163, 221, 240, 241, 242, 243, PHYS 160, 161, 162, 163.
- A 2.800 cumulative average must be attained in the science courses for acceptance by affiliated hospitals.
- One year of full time study (36 credit hours) at a hospital-based medical technology program affiliated with Xavier University.
- University residency requirement is fulfilled with a minimum of half of the required 95 hours taken at Xavier, before the fourth year.

B.S. Medical Technology

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

BIOL 160, General Biology I.....	3	BIOL 162, General Biology II	3
BIOL 161, General Biology Lab I.....	2	BIOL 163, General Biology II Lab	2
CHEM 160, General Chemistry I.....	3	CHEM 162, General Chemistry II	3
CHEM 161, General Chemistry I Lab	1	CHEM 163, General Chemistry II Lab	2
Foreign Language Elective	3	Foreign Language Elective	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	PHIL 100, Ethics as Intro to Philosophy	3
Total	15	Total	16

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Sophomore Year

CHEM 240, Organic Chemistry I.....	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
PHYS 160, College Physics I.....	3	PHYS 162, College Physics II	3
PHYS 161, Introductory Physics Lab I	1	PHYS 163, Introductory Physics Lab II	1
MATH 150, Elements of Calculus I.....	3	MATH 156, General Statistics	3
History I Elective	3	History II Elective	3
THEO 111, Theological Foundations	3	Literature Elective	3
		Cultural Diversity Elective	1
Total	17	Total	18

Junior Year

BIOL 410, Vertebrate Physiology	2	BIOL 450, Bacteriology	2
BIOL 411, Vertebrate Physiology Lab	2	BIOL 451, Bacteriology Lab	2
CHEM 221, Analytical Chemistry	1	BIOL 222, Immunology	2
PHIL 290, Theory of Knowledge	3	Theology Scrip/Hist or Christ Sys Elective ..	3
Social Science Elective	3	Social Science Elective	3
ENGL/CLAS 205, Lit & the Moral Imag	3	Fine Arts Elective	3
E/RS Focus Elective	3		
Total	17	Total	15

Senior Year (refer to page 358)

The BS degree in Medical Technology will be awarded upon satisfactory completion of the fourth year (12 months) of study at an accredited NAACLS (National Accrediting Agency for Clinical Laboratory Sciences) School of Medical Technology administered by a hospital and approved by Xavier University. After passing an examination administered by the American Society of Clinical Pathologists (ASCP), the graduate becomes a Registered Medical Technologist.

A student may also elect to complete the Bachelor of Science degree in Biology or Natural Sciences, then apply to any hospital-based program in Medical Technology accredited by NAACLS.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 131 credit hours is required for the degree upon 36 hours completion of a fourth year at an approved hospital.

ASSOCIATE OF SCIENCE DEGREE IN RADIOLOGIC TECHNOLOGY

The Radiologic Technology Program is a two year/full-time (23 months) classroom and clinical training leading to an Associate Degree in Science. The hospital affiliates are Good Samaritan Hospital and Mercy Franciscan Hospital-Western Hills.

Education for the radiography student is an integrated plan of classroom, laboratory and clinical education. The program requires 73 semester hours which include courses in liberal arts and radiologic technology.

The graduates of this program are eligible to apply for the American Registry of Radiologic Technologists examination.

Requirements for the Associate Degree in Radiologic Technology

Core Curriculum Requirements

- 29 hours in liberal arts courses: BIOL 140, 141, 142, 143, ENGL 101, HIST, MATH 105 (A higher level MATH course may be substituted for MATH 105 if transferring credits into the program, or the student may test out of this course by testing at a higher MATH level on the MATH placement test. If the student tests out of this course he/she will be able to graduate with 70 credit hours. MATH 105 is a prerequisite for PHYS 140), PHIL 100, PSYC 101, SOCI 101, THEO 111.

Major Requirements

- 36 hours in radiologic technology - all RADT courses listed on page 391-392.
- 8 hours in major related areas: COMM 207, CSCI 115, PHYS 140, 141.
- A grade of "C" or better must be attained in all RADT and PHYS courses.
- Courses with prerequisites cannot be taken until the prerequisite courses have been successfully completed with a grade of "C" or better.

All students must present evidence of the following prior to entrance to all clinical courses:

- Health history and required physical examination form
- MMR immunization
- Hepatitis B series
- Liability insurance (\$1,000,000/\$5,000,000) purchased through the University and billed to the student's account.

Students are responsible for these expenses as well as white uniforms and transportation costs to and from the clinical sites.

A.S. Radiologic Technology

This block serves as a guideline for progress toward a degree. See your academic advisor.

First Year

August - Pre-Semester: Registration and orientation for the Radiologic Technology Program begins in August. Clinical Training at the hospitals will begin during this time along with the following courses:

RADT 152, Nursing Procedures	1	RADT 150, Medical Terminology	1
		Total	2

A.S. Radiologic Technology, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
RADT 170, Prin of Radiographic Exp I	2	RADT 172, Prin of Radiographic Exp II	2
RADT 160, Radiographic Positioning I	2	RADT 180, Radiation Protection and Biol. .	2
BIOL 140, Hum Anatomy and Phys I	3	RADT 162, Radiographic Positioning II	2
BIOL 141, Hum Anatomy and Phys I Lab ...	1	BIOL 142, Hum Anatomy and Phys II	3
PSYC 101, General Psychology	3	BIOL 143, Hum Anatomy and Phys II Lab .	1
MATH 105, Fundamentals of Math	3	SOCI 101, Introduction to Sociology	3
RADT 161, Radiographic Practicum I	1	ENGL 101 or 115, Engl Comp or Rhetoric .	3
(Scheduled on Tuesdays and Thursdays		RADT 163, Radiographic Practicum II	1
- 16 hours per week.)		(Scheduled on Tuesdays and Thursdays	
		- 16 hours per week.)	
Total	15	Total	17

Summer Term

FIRST SUMMER SESSION: After the Spring Final Exam week, the students are scheduled for 40 hours per week of clinical training until the first Summer Session begins (a period of one to two weeks). When the first Summer Session begins, students are scheduled for 16 hours per week of clinical training. The students also take the following courses during the first Summer Session:

COMM 207, Interpersonal Comm	3	After the completion of COMM 207 &	
THEO 111, Theological Foundations	3	THEO 111 the students are scheduled for	
RADT 165, Radiographic Practicum III	3	40 hours per week of clinical training until	
		the Fall Semester begins.	
		Total	9

Second Year

RADT 270, Prin of Radiographic Exp III	2	RADT 292, Imaging Equipment and	
RADT 250, General Radiography	2	Film Processing	2
RADT 260, Special Procedures	2	RADT 294, Radiographic Sec Anatomy	2
PHYS 140, Radiologic Physics I	2	RADT 280, Pathology	2
History I	3	PHYS 141, Radiologic Physics II	2
RADT 261, Radiographic Practicum IV	2	PHIL 100, Ethics as Intro to Philosophy	3
(scheduled on Monday, Wednesday,		RADT 263, Radiographic Practicum V	2
Friday - 24 hours a week.)		(scheduled on Monday, Wednesday,	
CSCI 115, Computer Lit for Radiography	1	Friday - 24 hours a week.)	
Total	14	Total	13

Summer Term

RADT 265, Radiographic Practicum VI 3
 (Students are scheduled for 40 hours per week of clinical training at the hospital affiliate for the entire summer session.)

TOTAL NUMBER OF CREDITS: 73 Hours

(Block schedule is subject to change.)

Scheduling Notes:

- A minimum of 70 credit hours is required for the degree.

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B.S. Chemistry, continued

First Semester *Credit Hours* *Second Semester* *Credit Hours*

Sophomore Year

CHEM 240, Organic Chemistry I	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
MATH 220, Calculus III	4	CHEM 226, Quantitative Analysis	3
PHYS 170, University Physics I	3	CHEM 227, Quantitative Analysis Lab	1
PHYS 161, Introductory Physics Lab I	1	PHYS 172, University Physics II	3
THEO 111, Theological Foundations	3	PHYS 163, Introductory Physics Lab II	1
Cultural Diversity Elective	1	PHIL 290, Theory of Knowledge	3
Total	16	Total	15

Junior Year

CHEM 320, Physical Chemistry I	3	CHEM 322, Physical Chemistry II	2
CHEM 340, Instrumental Analysis	3	CHEM 341, Instrumental Analysis Lab	1
Theology Scrip/Hist or Christ Sys Elective ..	3	CHEM 325, Physical Chemistry Lab	1
CHEM 300, Chemical Literature	1	CHEM 330, Quantum Chemistry	2
History I Elective	3	CHEM 400, Chemical Research/Seminar	1
Literature Elective	3	Philosophy Elective	3
		ENGL/CLAS 205, Lit & the Moral Imag	3
		History II Elective	3
Total	16	Total	16

Senior Year

CHEM 411, Organic Synthesis & Analysis ..	3	CHEM 400, Chemical Research/Seminar	1
CHEM 420, Inorganic Chemistry	3	CHEM 421, Inorganic Chemistry Lab	1
CHEM 440, Biochemistry	3	Theology Ethics or Rel/Cult Elective	3
CHEM 400, Chemical Research/Seminar	1	Social Science Elective	3
E/RS Focus Elective	3	Fine Arts Elective	3
Social Science Elective	3	General Elective	1
Total	16	Total	12

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE CHEMISTRY MINOR

- 19 hours: CHEM 160, 161, 162, 163, 240, 241, 242, 243, and courses elected from 320-490 to complete at least 19 hours.
- A 2.000 cumulative average must be attained in the chemistry courses.

BACHELOR OF SCIENCE DEGREE IN CHEMICAL SCIENCE

The Department of Chemistry offers a program which leads to the BS degree in Chemical Science. This program is intended primarily for those students who wish to make use of chemical knowledge in connection with a career in the business world, e.g., in sales or marketing, or in secondary education.

The course requirements in chemistry and mathematics are less than those of the BS in Chemistry program. The hours thus released are made available as free elective hours which can then be applied to courses in accounting, business administration, economics, education, etc.

Requirements for the Chemical Science Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 120 and 150.
- Science: PHYS 160, 161, 162, 163.

Major Requirements

- 34 hours of chemistry courses: CHEM 160, 161, 162, 163, 220, 226, 227, 240, 241, 242, 243, 300, 340, 341, 400 (2X), 3 hours of Chemistry electives (CHEM 111-495).
- A 2.000 cumulative average must be attained in the chemistry courses.

B.S. Chemical Science

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

CHEM 160, General Chemistry I	3	CHEM 162, General Chemistry II	3
CHEM 161, General Chemistry I Lab	1	CHEM 163, General Chemistry II Lab	2
History I Elective	3	History II Elective	3
THEO 111, Theological Foundations	3	PHIL 100, Ethics as Intro to Philosophy	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	Foreign Language Elective	3
Foreign Language Elective	3	MATH 120, Elementary Functions	3
Total	16	Total	17

Sophomore Year

CHEM 240, Organic Chemistry I	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
PHYS 160, College Physics I	3	PHYS 162, College Physics II	3
PHYS 161, Introductory Physics Lab I	1	PHYS 163, Introductory Physics Lab II	1
MATH 150, Elements of Calculus I	3	CHEM 226, Quantitative Analysis	3
Theology Scrip/Hist or Christ Sys Elective ..	3	CHEM 227, Quantitative Analysis Lab	1
Total	14	Total	13

Junior Year

CHEM 220, Principles of Phys Chemistry ...	3	CHEM 341, Instrumental Analysis Lab	1
CHEM 300, Chemical Literature	1	Theology Ethics or Rel/Cult Elective	3
CHEM, 340, Instrumental Analysis	3	Fine Arts Elective	3
ENGL/CLAS 205, Lit & the Moral Imag	3	Philosophy Elective	3
PHIL 290, Theory of Knowledge	3	E/RS Focus Elective	3
General Elective	3	General Elective	3
Total	16	Total	16

B.S. Chemical Science, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Senior Year			
CHEM 400, Chemical Research/Seminar	1	CHEM 400, Chemical Research/Seminar	1
Chemistry Elective	3	Social Science Elective	3
Social Science Elective	3	General Elective	8
Literature Elective	3		
General Elective	6		
Total	16	Total	12

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

BACHELOR OF SCIENCE DEGREE IN APPLIED CHEMISTRY

**Xavier University - University of Cincinnati Cooperative
Science - Engineering Program**

This course of study is designed to provide a broad education in the physical sciences, mathematics, liberal arts, and specialized training in metallurgical or chemical engineering. (This program is also available for students in fields related to physics. See the Applied Physics program.)

Upon completion of the requirements as specified below, the student will be awarded a BS in Applied Chemistry degree by Xavier University. The program is designed for students who wish to continue their education in some field of engineering. This cooperative program ultimately can lead to a master's degree in engineering.

Requirements for the Applied Chemistry Major

Core Curriculum Requirements:

Cultural Diversity Elective	1	History Elective	6
English Composition/Rhetoric	3	Fine Arts Elective	3
Philosophy: PHIL 100 and 290	6	ENGL/CLAS 205, Lit & the Moral Imag ..	3
Theology: THEO 111 and elective ...	6	Mathematics: MATH 170 and 171	8
Foreign Language	6	Liberal Arts Elective **	9
E/RS Focus elective *	3		

* May also fulfill one of the core curriculum requirements above.

** May be taken at the University of Cincinnati.

Major Requirements

- 26 semester hours of chemistry courses: CHEM 160, 161, 162, 163, 221, 240, 241, 242, 243, 320, 322, 325.
- 30 semester hours of computer science, mathematics and physics courses: CSCI 170, MATH 170, 171, 220, 230, two MATH electives, PHYS 161, 163, 170, 172, 350, 351.
- A 2.000 cumulative average must be attained in the chemistry courses.
- 23 semester hours of engineering courses at the University of Cincinnati.

Coursework during the first two years is exclusively at Xavier University, at both Xavier and the University of Cincinnati during the third year, and only at the University of Cincinnati for year four and year five. Completion of the engineering degree awarded by the University of Cincinnati requires another year.

After three years, some students choose to remain at Xavier to complete their program. Individual arrangements are made for the fourth year and a degree in Applied Chemistry is awarded by Xavier.

BACHELOR OF SCIENCE DEGREE IN NATURAL SCIENCES

(preparation for medical or other health professional schools)

(For Pre-Medical and Pre-Dental Students)

The natural sciences curriculum presents a liberal arts program with emphasis on those sciences required for an excellent background for subsequent studies in medicine, dentistry, and similar health professions. Recurrent pronouncements by Committees on Admissions at professional schools leave no doubt that they regard an education in the liberal arts as one of the most important factors in forming a genuinely capable and effective health professional, but majoring in natural sciences is not a requirement for admission to a health profession. (See Certificate in Pre-Medical Studies on page 107.) The student should consult a current listing of professional school admission requirements* so that the selected course of study will assure the student of a degree and include all the minimum requirements for admission to those schools of medicine or dentistry to which he/she intends to apply.

* "Medical School Admission Requirements," published by the Association of American Medical Colleges, or "Admission Requirements of U.S. and Canadian Dental Schools," published by the American Association of Dental Schools.

Requirements for the Natural Sciences Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 150 and 156, 170 and 156, or 170 and 171.
- Social sciences: PSYC 101.
- Science requirement included within the major.

Major Requirements

- 51 hours in science courses: BIOL 160, 161, 162, 163, 230, 231, 354, 355, 410, 411, CHEM 160, 161, 162, 163, 220, 221, 240, 241, 242, 243, PHYS 160, 161, 162, 163.
- An additional 8 hours in biology or 8 hours in chemistry, to include two hours of research and the additional hours in electives. (See academic advisor for specific course selection.)
- A 2.000 cumulative average must be attained in all biology, chemistry and physics courses.

B.S. Natural Sciences

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
BIOL 160, General Biology I	3	BIOL 162, General Biology II	3
BIOL 161, General Biology I Lab	2	BIOL 163, General Biology II Lab	2
CHEM 160, General Chemistry I	3	CHEM 162, General Chemistry II	3
CHEM 161, General Chemistry I Lab	1	CHEM 163, General Chemistry II Lab	2
Foreign Language Elective	3	Foreign Language Elective	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	PHIL 100, Ethics as Intro to Philosophy	3
Total	15	Total	16

Sophomore Year

CHEM 240, Organic Chemistry I	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
PHYS 160, College Physics I	3	PHYS 162, College Physics II	3
PHYS 161, Introductory Physics Lab I	1	PHYS 163, Introductory Physics Lab II	1
MATH 150, Elements of Calculus I OR	3	MATH 156, General Statistics OR	3
MATH 170, Calculus I	4	MATH 171, Calculus II	4
THEO 111, Theological Foundations	3	ENGL/CLAS 205, Lit & the Moral Imag	3
		Cultural Diversity Elective	1
Total	14/15	Total	15/16

B.S. Natural Sciences, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Junior Year

BIOL 410, Vertebrate Physiology	2	BIOL 230, Genetics	3
BIOL 411, Vertebrate Physiology Lab	2	BIOL 231, Genetics Lab	1
CHEM 220, Principles of Physical Chem	3	BIOL 354, Vertebrate Anatomy	2
CHEM 221, Analytical Chemistry Lab	1	BIOL 355, Vertebrate Anatomy Lab	2
History I Elective	3	PHIL 290, Theory of Knowledge	3
Theology Scrip/Hist or Christ Sys Elective	3	History II Elective	3
Literature Elective	3		
Total	17	Total	14

Senior Year

BIOL 498/CHEM 400, Biology or Chemical Research	1	BIOL 499/CHEM 400, Biological or Chemical Research	1
Biology or Chemistry Elective *	4	Biology or Chemistry Elective *	2
Theology Ethics or Rel/Cult Elective	3	Social Science Elective	3
Philosophy Elective	3	E/RS Focus Elective	3
PSYC 101, General Psychology	3	General Elective	3
		Fine Arts Elective	3
Total	14	Total	15

- * Student selects a senior year concentration of courses plus research in either biology or chemistry. Courses vary from year to year, so contact your academic advisor for current selections. Students concentrating in chemistry should add CHEM 300, Chemical Literature, one hour, to junior year schedule.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 hours is required for this degree.

REQUIREMENTS FOR THE NATURAL SCIENCES MINOR

The Natural Sciences minor is designed for undergraduate students who wish to complete science courses generally required of applicants to medical school while completing a bachelor's degree in a non-science major.

- 34 hours of science courses including BIOL 160, 161, 162, 163; CHEM 160, 161, 162, 163, 240, 241, 242, 243; PHYS 160, 161, 162, 163.
- A 2.000 cumulative average must be attained in these courses.

PRE-PHARMACY PROGRAM

The Pre-Pharmacy Program is covered and administered by the Department of Chemistry. Colleges of pharmacy require a minimum of two years of undergraduate study and include certain required courses for admission. If the required courses have been completed, students may apply to a college of pharmacy after two years of study or after earning a baccalaureate degree.

The pre-pharmacy curriculum satisfies the minimum preparation for admission to most colleges of pharmacy. It may be modified to meet other specific requirements of a particular college of pharmacy. A current listing of such requirements* should be consulted by the student in order to plan a satisfactory program. The student is advised to meet regularly with a member of the Committee on Health Sciences so as to be well-informed about all current prerequisites and the procedures to be followed in applying for admission to a college of pharmacy.

If the student plans to continue undergraduate education at Xavier University and to obtain a BS degree, this can be done easily within the BS in Biology, BS in Chemical Science, or BS in Natural Sciences programs. The student then should meet with the chair of the appropriate science department for guidance in the choice of courses necessary for the desired degree.

* “Pharmacy School Admission Requirements,” published by the American Association of Colleges of Pharmacy.

Pre-Pharmacy

This block serves as a guideline for progress in the program. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

MATH 150, Elements of Calculus I.....	3	MATH 151, Elements of Calculus II.....	3
BIOL 160, General Biology I.....	3	BIOL 162, General Biology II.....	2
BIOL 161, General Biology Lab.....	2	BIOL 163, General Biology Lab II.....	2
CHEM 160, General Chemistry I.....	3	CHEM 162, General Chemistry II.....	3
CHEM 161, General Chemistry I Lab.....	1	CHEM 163, General Chemistry II Lab.....	2
THEO 111, Theological Foundations.....	3	PHIL 100, Ethics as Intro to Philosophy.....	3
PSYC 101, General Psychology.....	3	ENGL 101, English Composition.....	3
Total.....	18	Total.....	18

Sophomore Year

CHEM 240, Organic Chemistry I.....	3	CHEM 242, Organic Chemistry II.....	3
CHEM 241, Organic Chemistry I Lab.....	1	CHEM 243, Organic Chemistry II Lab.....	1
PHYS 160, College Physics.....	3	PHYS 162, College Physics II.....	3
PHYS 161, Intro Physics Lab I.....	1	PHYS 163, Intro Physics Lab II.....	1
MATH 116, Elementary Statistics.....	3	BIOL 200, Microbiology.....	3
History I Elective.....	3	PHIL 290, Theory of Knowledge.....	3
Literature elective.....	3	ECON 200, Microeconomic Principles.....	3
Cultural Diversity Elective.....	1		
Total.....	18	Total.....	17

PRE-MORTUARY SCIENCE CURRICULUM

The Pre-Mortuary Science curriculum is administered by the department of chemistry. Most states require one or two years of general college coursework prior to admission into mortuary college. Xavier University offers a specific two-year non-degree curriculum for students who wish to earn the Bachelor in Mortuary Science degree from the Cincinnati College of Mortuary Science (CCMS). The program consists of two years at Xavier followed by five academic quarters at the CCMS.

It should be noted that Xavier and CCMS are two separate institutions and that students need to complete two admissions procedures. Xavier offers the pre-mortuary science curriculum, and CCMS offers the mortuary science curriculum and awards the Bachelor in Mortuary Science degree, which is a professionally oriented degree at the baccalaureate level.

The requirements for this 61-hour program are:

Required Courses - 21 hours

ENGL 101, SOCI 101, PSYC 101, COMM 101, ECON 200 and 201, MKTG 300

Elective Courses - 40 hours

6 credit hours of history (100-level)	6 credit hours of fine arts
6 credit hours of biology	6 credit hours of mathematics
6 credit hours of literature	3 credit hours of theology/philosophy
6 credit hours of general electives	1 credit hour of cultural diversity

Contact the department of chemistry for more information, 513 745-2063.

THE DEPARTMENT OF CLASSICS

The Department of Classics offers two bachelor's degrees, the Bachelor of Arts in Classics and the Bachelor of Arts in Classical Humanities, as well as minors in Greek, Latin and Classical Humanities. In addition, the department plays a major role in the Honors Bachelor of Arts degree. For this degree, see page 89 in Special University Programs.

FACULTY

Faculty: DR. CUEVA, *chair*; FR. BENDA, DR. BYRNE, DR. GALLAGHER, DR. HARRISON

BACHELOR OF ARTS DEGREE IN CLASSICS

The Bachelor of Arts degree in Classics is designed to bring students into intimate contact with the world of the ancient Romans and Greeks through the study of their language, literature and culture. It introduces them to that era when Western society was for the first time in recorded history dealing with and recording many of the same problems and questions with which we are still grappling today.

Requirements for the Classics Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Foreign language requirement: 12 hours (or equivalent competence) of a second foreign language.

Major Requirements

- 0-12 lower division hours in Latin or Greek (the number depending on prior achievement).
- 21 hours in Latin or Greek beyond the intermediate language level.
- A 2.500 cumulative average must be attained in the above courses.
- Pass a comprehensive examination upon completion of a senior thesis.
- In addition to the above requirements, the student has 18-24 hours of non-designated electives which can be used to meet specific interests or needs.

B.A. Classics

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

ENGL 101 or 115, Engl Comp or Rhetoric ..3	History II Elective 3
History I Elective 3	LATN 102, Elementary Latin II OR
LATN 101, Elementary Latin I OR	GREK 102, Elementary Greek II 3
GREK 101, Elementary Greek I3	Mathematics Elective 3
Mathematics Elective 3	Foreign Language Elective 3
Foreign Language Elective 3	PHIL 100, Ethics as Intro to Philosophy 3
Total 15	Total 15

Sophomore Year

Literature Elective 3	ENGL/CLAS 205, Lit & the Moral Imag 3
LATN 201, Intermediate Latin I: Prose 3	Latin or Greek Elective 3
or GREK 201, Attic Prose 3	Foreign Language Elective 3
Foreign Language Elective 3	Science Elective 3
Science Elective 3	PHIL 290, Theory of Knowledge 3
THEO 111, Theological Foundations 3	Cultural Diversity Elective 1
Total 15	Total 16

B.A. Classics, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Junior Year

General Electives 6	General Elective 3
Latin or Greek Elective 3	Latin or Greek Elective 3
Social Science Elective 3	Social Science Elective 3
Theology Scrip/Hist or Christ Sys Elective . 3	Philosophy Elective 3
	Theology Ethics or Rel/Cult Elective 3
Total 15	Total 15

Senior Year

Latin or Greek Electives 6	General Electives 8
Fine Arts Elective 3	Latin or Greek Elective 6
Science Elective 3	
E/RS Focus Elective 3	
Total 15	Total 14

Scheduling Notes

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE GREEK MINOR

- 15 hours in Greek courses beyond the Elementary II level.
- A 2.500 cumulative average is required in all Greek courses.

REQUIREMENTS FOR THE LATIN MINOR

- 15 hours in Latin courses beyond the Elementary II level.
- A 2.500 cumulative average is required in all Latin courses.

BACHELOR OF ARTS DEGREE IN CLASSICAL HUMANITIES

This program is designed to offer a major for those students who have an interest in the ancient world but prefer breadth rather than specialization in their undergraduate education or seek to pursue the equivalent of a second major. This program combines the minimum number of course requirements with a maximum number of elective courses. The 24 hours of study of the ancient Greek and Roman world will give the student a somewhat intensive knowledge of the cultures, which in time and place are far removed from our own but which have exercised a very strong and continuing influence on modern civilization.

Requirements for the Classical Humanities Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Foreign language requirement included within the major.

Major Requirements

- 0-12 lower division hours in Latin or Greek (the number depending on prior achievement).
- 6 hours in Latin or Greek beyond the intermediate language level.
- 18 hours in classical culture offerings.
- A 2.500 cumulative average must be attained in the above courses.
- In addition to the above requirements, the student has approximately 26 hours of non-designated electives which can be used to meet specific interests or needs.

B.A. Classical Humanities

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours.</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

LATN 101, Elementary Latin I OR	LATN 102, Elementary Latin II OR
GREK 101, Elementary Greek II 3	GREK 102, Elementary Greek II 3
History I Elective 3	History II Elective 3
Mathematics Elective 3	Mathematics Elective 3
THEO 111, Theological Foundations 3	PHIL 100, Ethics as Intro to Philosophy 3
ENGL 101 or 115, Engl Comp or Rhetoric .. 3	Literature Elective 3
Total 15	Total 15

Sophomore Year

Latin OR Greek Elective 3	Latin OR Greek Elective 3
Science Elective 3	Science Elective 3
Theology Scrip/Hist or Christ Sys Elective .3	PHIL 290, Theory of Knowledge 3
Classics Elective 3	Classics Elective 3
Social Science Elective 3	Social Science Elective 3
Cultural Diversity Elective 1	
Total 16	Total 15

Junior Year

Latin OR Greek upper division course OR Elective 3	Latin OR Greek upper division course OR Elective 3
Theology Ethics or Rel/Cult Elective 3	Philosophy Elective 3
Classics Elective 3	Classics Elective 3
General Electives 6	ENGL/CLAS 205, Lit and the Moral Imag . 3
	General Elective 3
Total 15	Total 15

Senior Year

General Elective 3	Classics Elective 3
Fine Arts Elective 3	General Elective 11
Science Elective 3	
E/RS Focus Elective 3	
Classics Elective 3	
Total 15	Total 14

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE CLASSICAL HUMANITIES MINOR

- 18 hours in classical culture courses offerings.
- A 2.500 cumulative average must be attained in the classical culture courses.

NOTE: Courses with the CLAS designation require no knowledge of an ancient language. Courses with the LATN and GREK designations can apply to the Classical Humanities Minor.

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THE DEPARTMENT OF COMMUNICATION ARTS

The Department of Communication Arts offers an Associate of Arts degree and a Bachelor of Arts degree in four areas: Advertising, Electronic Media, Organizational Communication, and Public Relations. For more information on the associate degree, contact the Center for Adult and Part-time Students (CAPS). Also offered are minors in Communication Arts & Performance Studies.

FACULTY

Faculty: DR. FINCH, chair; DR. DAILY, MR. HAGERTY, DR. J. KING, DR. MICHELS, DR. PATNODE, MR. T. SCHICK, MR. SMITH, DR. WOOD

Academic Staff: MS. MIMS, MS. PEARCE, MS. TIGHE

Adjunct Faculty : MR. ADDINO, MS. DAILY, MR. FELD, MS. GILCHRIST, MS. HAGERTY, MR. HILL, MS. HOLTkamp, MR. MASTRIANI, MR. MUELLER, MS. O'MEARA, MR. OVERBECK, MS. PADGETT, DR. RUGEN, MS. SPRINGFIELD, FR. THEPE, MR. TURNER, MR. WOLFE, MR. ZAHN, MS. ZINK

BACHELOR OF ARTS DEGREE IN COMMUNICATION ARTS

The Communication Arts majors will help students understand the communication process, develop essential skills, and form positive attitudes toward the role that, as educated adults, they will play in society. Basic skills in written and spoken communication receive emphasis in all four COMM majors: advertising, electronic media, organizational communication, and public relations.

In order to complete all requirements for the degree, students should formally declare one of the four departmental majors by the end of their freshmen year. Departmental guidance is necessary to ensure proper sequencing of classes. Proficiency in writing skills is required in all courses, and continued improvement in writing, speaking, and word-processing skills is expected. All COMM majors are required to take at least one writing course, one speaking course, one course in interpersonal communication, and the introductory survey course. Qualified communication arts students are encouraged to take advantage of internship opportunities in their respective majors to gain practical professional experience.

Many students within the department work closely with the University's television production studio and its FM radio station, WVXU. The television studio is very active in program production for cable television and industrial usage. The radio station broadcasts to the tri-state and Michigan areas from its new building and has received national recognition for its work. Both facilities utilize students in a number of roles and encourage the development of high professional standards. The Xavier University Vonters Haar Chapter of the Public Relations Student Society of America (PRSSA) and the Student Art Club provide opportunities for students to network with area professionals and gain meaningful practical experience.

Requirements for the Communication Arts Majors

Core Curriculum Requirements (see page 94): 64 hours

Major Requirements: 36 hours

- Advertising: COMM 100, 101, 207, 230, 329, 330, 332, 334, 439, nine hours of guided COMM electives.
- Electronic Media: COMM 100, 101, 207, 240, 250, 340, 341 or 350, 345 or 346, twelve hours of guided COMM electives.
- Organizational Communication: COMM 100, 101, 207, 209, 260, 264, 301, 363, 462, 469, six hours of guided COMM electives.
- Public Relations: COMM 100, 101, 207, 270, 271, 370, 477, 479, a three hour research course, a three hour advanced writing course, and six hours of guided COMM electives.
- A 2.000 cumulative average must be attained in the communication arts courses.

Since each major recommends certain courses as COMM electives, it is important that students work closely with their academic advisors in the choice of these electives.

B.A. Communication Arts

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

Foreign Language Elective	3	PHIL 100, Ethics as Intro to Philosophy	3
THEO 111, Theological Foundations	3	Foreign Language Elective	3
History I Elective	3	Literature Elective	3
COMM 100, Survey of Comm Studies	3	History II Elective	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	COMM 101, Oral Communication	3
Total	15	Total	15

Sophomore Year

Science Elective	3	Science Elective	3
Fine Arts Elective	3	ENGL/CLAS 205, Lit and the Moral Imag .	3
Mathematics Elective	3	Mathematics Elective	3
PHIL 290, Theory of Knowledge	3	Theology Scrip/Hist or Christ Sys Elective .	3
COMM 207, Interpersonal Communication	3	Communication Arts Course	3
Cultural Diversity Elective	1		
Total	16	Total	15

Junior Year

Philosophy Elective	3	E/RS Focus Elective	3
Social Science Elective	3	Social Science Elective	3
Science Elective	3	Theology Ethics or Rel/Cult Elective	3
Communication Arts Courses	6	Communication Arts Courses	6
Total	15	Total	15

Senior Year

Communication Arts Courses	6	Communication Arts Courses	6
General Electives	9	General Electives	9
Total	15	Total	15

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

Communication Arts Major Requirements

ADVERTISING

The goal of the Advertising major is to prepare students for a career in the field of advertising. This program offers a comprehensive study of advertising, including the principles of advertising, creative concepts, media planning, research, and management.

Requirements (36 credit hours):

- COMM 100, Survey of Communication Studies
- COMM 101, Oral Communication
- COMM 207, Interpersonal Communication
- COMM 230, Introduction to Advertising
- COMM 329, Communication Research Techniques

COMM 330, Creative Concepts in Advertising
COMM 332, Media Planning
COMM 334, Advertising in Modern Society
COMM 439, Senior Seminar: Advertising Practice and Management
Communication Arts Electives (9 credit hours)

ELECTRONIC MEDIA

The Electronic Media major will prepare students for entry-level positions in radio, television, cable, and corporate video. The program emphasizes those skills which are necessary for work in both the commercial and noncommercial broadcast areas, as well as corporate uses of the electronic media.

Requirements (36 credit hours):

COMM 100, Survey of Communication Studies
COMM 101, Oral Communication
COMM 207, Interpersonal Communication
COMM 240, Fundamentals: Electronic Media
COMM 250, Video Production and Technology
COMM 340, Audio Production and Technology
COMM 341, Radio Lab, **OR**
COMM 350, Television Lab
COMM 345, Introduction to Broadcast Journalism, **OR**
COMM 346, Introduction to Broadcast Writing
Communication Arts Electives (12 credit hours)

ORGANIZATIONAL COMMUNICATION

Organizational Communication students have the opportunity to gain the knowledge and practical skills necessary to promote effective communication processes within public and private organizations. The program emphasizes both written and oral communication, and students are encouraged to prepare themselves for a broad range of employment possibilities in areas such as sales, special events planning, human resources, industrial relations, training, and management.

Requirements (36 credit hours):

COMM 100, Survey of Communication Studies
COMM 101, Oral Communication
COMM 207, Interpersonal Communication
COMM 209, Group Dynamics
COMM 260, Organizational Communication
COMM 264, Persuasion
COMM 301, Presentational Speaking
COMM 363, Written Communication in Organizations
COMM 462, Principles & Practices of Interviewing
COMM 469, Senior Seminar: Organizational Communication
Communication Arts Electives (6 credit hours)

PUBLIC RELATIONS

The Public Relations major combines comprehensive theory and specific practical skills, in the context of a humanistic liberal education, to prepare students for public relations careers in the corporate, private nonprofit, and public sectors; or for a broad range of other careers that benefit from careful thinking and clear communication.

Requirements (36 credit hours):

COMM 100, Survey of Communication Studies
COMM 101, Oral Communication
COMM 207, Interpersonal Communication
COMM 270, Principles of Public Relations
COMM 271, Public Relations Writing or COMM 275, Newswriting
COMM 370, Media and Public Relations
COMM 477, Senior Seminar: Public Relations Management

COMM 479, Public Relations Ethics in Modern Society
Research, selected from COMM 277, 329, 462.
Advanced Writing, selected from COMM 346, 363, 371, 375, 406, 446
Communication Arts Electives (6 credit hours)

REQUIREMENTS FOR THE COMMUNICATION ARTS MINOR

18 hours from the following:

- COMM 207, Interpersonal Communication
- COMM 209, Group Dynamics
- COMM 223, Survey of Mass Media
- COMM 224, Intercultural Communication
- COMM 301, Presentational Speaking
- One upper-level communication arts writing course from the following options:
COMM 271, 275, 346, 363, 371, 375, 406, or 446.
- A 2.000 cumulative grade point average must be attained in all courses taken in the minor.

REQUIREMENTS FOR THE PERFORMANCE STUDIES MINOR

18 hours from the following:

- COMM 202, Performance Studies: Performing Texts
- COMM 203, Performance Studies: Staging Texts
- COMM 217, Acting I
- COMM 218, Introduction to the Theatre
- COMM 317, Acting II
- COMM 318, Directing for the Stage
- A 2.000 cumulative grade point average must be attained in all courses taken in the minor.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN A COMMUNICATION ARTS MAJOR

Core Curriculum Requirements (see page 96): 31 hours

Concentration Requirements:

- Advertising (21 hours): COMM 100, 101, 207, 230, 332, 329 and three hours of COMM electives.
- Electronic Media (24 hours): COMM 100, 101, 207, 240, 250, 340, 341 or 350, 345 or 346.
- Organizational Communications (21 hours): COMM 100, 101, 207, 209, 260, and six hours of COMM electives.
- Public Relations (21 hours): COMM 100, 101, 207, 270, 271, and six hours of COMM electives.
- A 2.000 cumulative average must be attained in the communication arts courses.

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THE DEPARTMENT OF ENGLISH

The Department of English offers the Bachelor of Arts, the Associate of Arts, and the Master of Arts in English degrees. For information on the associate degree, contact the Center for Adult and Part-time Students (CAPS). Also offered is a minor in English.

FACULTY

Faculty: DR. WILLIAMS, *chair*; MS. AUSTIN, DR. CLINE-BAILEY, FR. CONNOLLY, DR. FINKELSTEIN, DR. FONTANA, DR. GETZ, DR. HERREN, MS. McCARTY, DR. RAINEY, DR. REID, DR. RUSSELL, DR. C. SNODGRASS, DR. SOUSA, DR. THOMAS, DR. WINKELMANN, DR. WYETT

BACHELOR OF ARTS DEGREE IN ENGLISH

The major in English is designed to develop writing skills, a critical and historical understanding of the English language and its literature, and a knowledge of current theories of literature, language, and humanistic interpretation. The English major is an excellent preparation for law school and for careers in education, journalism, editing, publishing, and other communications fields. It is also a fine preparation for a variety of business careers and for graduate school in business and, with appropriate science courses, for medical school.

Requirements for the English Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Literature requirement included within the major.

Major Requirements

- 36 hours of English courses: ENGL 115, 205-Major's section, 221, 302 or 303, 499, seven upper-level electives (300-498) including one each in Shakespeare, British literature, American literature, and language or writing.
- A 2.000 cumulative average must be attained in the English courses.

Undergraduates who wish to be certified as teachers of English on the secondary level are advised to consult with the Chair of the English Department and with the Office of Teacher Education and Placement regarding specific requirements for teacher certification.

B.A. English

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
ENGL 115, Rhetoric	3	ENGL/CLAS 205, Lit & Moral Imag (Major's section)	3
History I Elective	3	History II Elective	3
Foreign Language Elective	3	Foreign Language Elective	3
PHIL 100, Ethics as Intro to Philosophy	3	THEO 111, Theological Foundations	3
Mathematics Elective	3	Mathematics Elective	3
Total	15	Total	15
Sophomore Year			
ENGL 221, Poetry	3	ENGL 302, Modern Literacy Theory OR ENGL 303, History of Lit & Criticism	3
PHIL 290, Theory of Knowledge	3	Theology Scrip/Hist or Christ Sys Elective .	3
Science Elective	3	Science Elective	3
Social Science Elective	3	Social Science Elective	3
Fine Arts Elective	3	E/RS Focus Elective	3
Cultural Diversity Elective	3	Total	15
Total	16		

The following courses are required by both plans:

- ENGL 512 - Literary Theory
- ENGL 525 - Shakespeare
- A 300 or 500 level English course on language if the student has not taken one as an undergraduate
- A 500 or 600 level course on women or minority authors
- One graduate seminar
- The remaining courses are English electives, which must be approved by the department chair.

During study for the MA, students must demonstrate reading knowledge of a foreign language. At the close of their studies, they must pass a written comprehensive examination based on fifteen works of literature and literary theory. Eleven of these works are chosen by the department every two years; the remaining four are chosen by the individual student. The comprehensive examination is given in April and November.

The Master of Arts program in English invites applications from students with a bachelor's degree and a solid academic record. Students seeking admission are expected to have a 3.000 average in their undergraduate English courses. Applicants should have excellent writing skills and a strong background in the humanities but need not be undergraduate English majors. Admission decisions are based on factors such as past academic performance, standardized test score, and other information submitted.

Further information and application materials may be obtained from the Office of Graduate Services, 312 Elet Hall, 513 745-3360.

Courses are offered in the evening for the convenience of part-time students.

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THE DEPARTMENT OF HISTORY

The Department of History offers the Bachelor of Arts and the Associate of Arts degrees in History. For information on the associate degree, contact the Center for Adult and Part-time Students (CAPS). Also offered is a minor in History.

FACULTY

Faculty: FR. LAROCCA, *chair*; DR. C. ANDERSON, DR. FAIRFIELD, DR. FORTIN, FR. GRAHAM, DR. GRUBER, DR. JEFFERSON, MR. KEARNS, DR. KORROS, MR. LAROCQUE, MS. O'HARA, DR. SARNOFF, DR. SMYTHE, DR. TIRO

Adjunct Faculty: DR. COSTA, MS. GIBLER, MR. UHRIG, MR. TERRY, MR. WEISBROD

BACHELOR OF ARTS DEGREE IN HISTORY

The History major provides an excellent foundation for a wide variety of career choices. The study of history encourages one to examine closely the institutions, ideas, and systems that shape our world, and through acquaintance with civilizations different from our own in time or culture, it provides valuable comparative frames of reference.

History makes a unique contribution to a liberal education. It requires the attainment of a sympathetic appreciation of events and developments seen, not in isolation, but as part of a complex process. The study of history encourages depth of understanding through the development of analytic and critical skills. It trains one to seek valid conclusions that are based on all available sources of information. The study of history, therefore, prepares students to be successful in a wide variety of careers and professions. The History major is available with the Business minor for those who wish it.

Requirements for the History Major

Core Curriculum Requirements (see page 94): 64 hours, including

- History requirement included within the major.

Major Requirements

- 36 hours of history courses:
 - a. Complete two of the five sequences of HIST 123/124, HIST 133/134, HIST 143/144, HIST 151/152, or HIST 161/162.
 - b. Five 3-hour elective courses (HIST 200-399).
 - c. Three 3-hour seminars (HIST 400-480).
- A 2.000 cumulative average must be attained in the history courses.

B.A. History

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
History Level I (1st sequence)	3	History Level II (1st sequence)	3
Foreign Language Elective	3	Foreign Language Elective	3
Science Elective	3	Science Elective	3
PHIL 100, Ethics as Intro to Philosophy	3	THEO 111, Theological Foundations	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	Literature Elective	3
Total	15	Total	15

B.A. History, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Sophomore Year

History Level I (2nd sequence)	3	History Level II (2nd sequence)	3
Social Science Elective	3	ENGL/CLAS 205, Lit and the Moral Imag .	3
Mathematics Elective	3	Mathematics Elective	3
Theology Scrip/Hist or Christ Sys Elective .	3	PHIL 290, Theory of Knowledge	3
Elective (<i>continued study of foreign</i>		Elective (<i>continued study of foreign</i>	
<i>language strongly recommended</i>)	3	<i>language strongly recommended</i>)	3
Cultural Diversity Elective	1		
Total	16	Total	15

Junior Year

History Elective	6	History Elective	3
History Seminar	3	History Seminar	3
Theology Ethics or Rel/Cult Elective	3	Science Elective	3
Social Science Elective	3	General Elective	3
		E/RS Focus Elective	3
Total	15	Total	15

Senior Year

History Elective	3	History Elective	3
History Seminar	3	Philosophy Elective	3
Fine Arts Elective	3	General Elective	8
General Elective	6		
Total	15	Total	14

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE HISTORY MINOR

- 18 hours of history courses: complete one of the five sequences of HIST 123/124, HIST 133/134, HIST 143/144, HIST 151/152, or HIST 161/162; one additional course from HIST 123, 124, 133, 134, 143, 144, 151, 152, 161, 162; two 3-hour electives from 200-399; and a 3-hour seminar from 400-479.
- A 2.000 cumulative average must be attained in the history courses.

**REQUIREMENTS FOR THE ASSOCIATE OF ARTS
DEGREE IN HISTORY**

Core Curriculum Requirements (see page 96): 31 hours, including

- History requirement included within the concentration.

Concentration Requirements:

- 15 hours of history courses: HIST 134 or 144 continuation of core course, and four electives chosen from HIST 200-399.
- A 2.000 cumulative average must be attained in the history major.

MASTER OF ARTS DEGREE IN HUMANITIES

"THE HUMAN SEARCH FOR MEANING AND VALUES" is the integrating theme of the interdisciplinary humanities program. It is designed to provide intellectual stimulation, personal growth, and self-satisfaction for mature adults who believe that learning should be an exciting, lifelong experience.

The program is intended especially for established adults who wish to continue their education on a part-time basis. Courses are available in the evening for the convenience of those with family or job responsibilities during the day. Initial courses in the program are structured so as to facilitate the return of those who have been away from academic life for some time.

The program is both focused and flexible. It requires the successful completion of thirty semester hours of graduate course work. Fifteen of these hours constitute the program's core. They provide extensive opportunity for reading, discussion, and critical analysis in the humanities -- literature, history, philosophy/theology, and the fine arts. Some core courses are taught by faculty teams representing different disciplines. At least 60% of the course work must be in courses numbered 500 or above.

Core Requirements

- Seminars: Humanities 501-508. Students must take two of these courses; the others may be taken as electives.
- LANGUAGE OF THE HUMANITIES (HUMN 511).
- THE QUEST FOR MEANING AND VALUES, satisfied by completing an approved course in either philosophy or theology.
- LITERATURE AND THE HUMAN IMAGINATION, satisfied by taking an approved course in literature.

Elective Courses

- 15 hours chosen from approved courses in the humanities, liberal arts, and social sciences. Through these elective courses, students may tailor the program to their individual interests. Provision is made for independent study opportunities and for short-term as well as semester-length courses.

With its orientation toward personal growth and self-satisfaction, the Master of Arts in Humanities is not a research program. There is no foreign language requirement or formal research thesis. Each student must, however, present an acceptable final project (humanities essay or alternative project) at the conclusion of the course of study.

Admission is open to any interested person with a bachelor's degree and a good academic record, regardless of undergraduate major. Applicants must have the director's approval prior to registering for courses. For further information regarding admission, see page 55 of this catalog.

Further information and application materials may be obtained from the Office of Graduate Services, 312 Elet Hall, 513 745-3360.

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THE DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

The Department of Mathematics and Computer Science offers two degrees, the Bachelor of Science in Mathematics and the Bachelor of Science in Computer Science, as well as minors in Mathematics and Computer Science.

FACULTY

Faculty: DR. J. SNODGRASS, *chair*; DR. BELCASTRO, DR. BERRY, DR. CHUDNOVSKY, DR. FLASPOHLER, DR. GOLDWEBER, DR. E. JOHNSON, DR. LARKIN, DR. LEWANDOWSKI, DR. MORTON, DR. OTERO, DR. PULSKAMP, DR. ROSSA, MR. STAAT, MR. TRUNNELL, DR. VANDERBILT, DR. J. WALKER

Academic Staff: MS. DORAN, MS. HOLLAND

Adjunct Faculty: MR. BARTH, MR. BUTZ, MR. COLE, MS. HIPPLE, BR. LOHREY, MS. SOUTHWICK

BACHELOR OF SCIENCE DEGREE IN MATHEMATICS

The Department of Mathematics offers a program intended to develop a student's capacity to undertake intellectually demanding mathematical tasks by emphasizing general mathematical reasoning through mastery of varied subject matter. Upon successful completion of the program, the student should be well prepared for graduate studies in mathematics and related disciplines, for teaching at the secondary level and for immediate employment by industry in a position which makes use of the talents and abilities of one trained in the mathematical sciences.

Mathematicians continue to be in demand to fill both traditional and developing roles in society. Opportunities abound for researchers in all areas of mathematics. Engineering, computer science, and the physical sciences require individuals with mathematical training. The applications of statistics are increasingly widespread. Those in the economics as well as other social and health sciences, in the business community, and in the field of law are aware of the value of mathematics, not only as a tool for problem solving, but also for developing critical and analytical skills.

Requirements for the Mathematics Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Sciences: at least 9 hours in two sciences including any two of the following: BIOL 160-161, BIOL 162-163, CHEM 160-161, CHEM 162-163, PHYS 161-170, and PHYS 163-172.
- Foreign Language: French or German recommended.
- Mathematics requirement included within the major.

Major Requirements

- 42 hours of mathematics courses: MATH 170, 171, 180, 210, 220, 230, 240, 340, 370, four elective courses (200-397). The mathematics electives should be chosen with the help of the student's advisor.
- Three hours of computer sciences: CSCI 170
- A 2.000 cumulative average must be attained in the mathematics and computer science courses.
- Successful performance on the MFT (Major Fields Test) in Mathematics.

Any student wishing to major in mathematics should consult the chair of the department before registration.

B.S. Mathematics

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

MATH 170, Calculus I	4	MATH 171, Calculus II	4
CSCI 170, Computer Science I	3	MATH 180, Elements of Discrete Math	3
Foreign Language Elective	3	Foreign Language Elective	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	PHIL 100, Ethics as Intro to Philosophy	3
		THEO 111, Theological Foundations	3
Total	13	Total	16

Sophomore Year

MATH 220, Calculus III	4	MATH 230, Differential Equations	3
MATH 210, Elementary Linear Algebra	3	MATH 240, Linear Algebra	3
History I Elective	3	History II Elective	3
Literature Elective	3	ENGL/CLAS 205, Lit and the Moral Imag ..	3
PHIL 290, Theory of Knowledge	3	Theology Scrip/Hist or Christ Sys Elective .	3
		Cultural Diversity Elective	1
Total	16	Total	16

Junior Year

MATH 340, Abstract Algebra I	3	MATH 370, Intro to Real Analysis	3
Mathematics Elective	3	Mathematics Elective	3
Philosophy Elective	3	Theology Ethics or Rel/Cult Elective	3
Science Elective	4	Science Elective	4
Fine Arts Elective	3	General Elective	3
Total	16	Total	16

Senior Year

Mathematics Elective	3	Mathematics Elective	3
Social Science Elective	3	Social Science Elective	3
General Elective	5	General Elective	3
E/RS Focus Elective	3	Science Elective or General Elective	4
Total	14	Total	13

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE MATHEMATICS MINOR

- 18 hours of mathematics courses: MATH 170, 171, 210, and at least seven additional hours of mathematics electives (MATH 180-397).
- A 2.000 cumulative average must be attained in the mathematics courses.

BACHELOR OF SCIENCE DEGREE IN COMPUTER SCIENCE

Computer technology has revolutionized society's methods for processing information and making decisions. The growth in the use of computers has increased the demand for professionals in computer science. Typical computer careers include programming and application in such areas as accounting, engineering, law, mathematics, medicine, and the sciences. Other positions include research in computer science, computer design, computer product marketing and sales, technical writing, and teaching.

Xavier's program is designed to develop, within the framework of a liberal education, the knowledge, skills, and creative analytical ability required for a productive career in computer-related fields and for graduate work in computer science or other areas.

Computer science students may elect to participate in a cooperative education experience. The cooperation education program is designed to complement students' classroom training in theoretical computer science by providing actual work experience in a real software engineering environment. In addition to gaining a deeper appreciation of classroom theory, students also make valuable professional contacts and learn more about career options in computer science.

Requirements for the Computer Science Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Sciences (15 hours): PHYS 170, 172, 242, 243, 244 and 245; and complete three hours of a second science from BIOL or CHEM or PSYC.
- Mathematics (14 hours) MATH 170, 171, 180, and 156 or 210.

Major Requirements

- 36 hours of computer science courses: CSCI 170, 180, 181, 210, 220, 250, 260, 300, 310, 320, 390, plus six hours of computer science electives (CSCI 200-397).
- A 2.000 cumulative average must be attained in the computer science courses.
- Fulfill the current senior comprehensive requirements.

Some students elect to complete a second major in mathematics or some other discipline; some others choose the business major or a minor in a related field. Any student wishing to major in computer science should consult a member of the computer science staff before registration.

B.S. Computer Science

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
CSCI 170, Computer Science I	3	CSCI 180, Computer Science II	3
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	CSCI 181, Computer Science Lab	1
MATH 170, Calculus I	4	MATH 171, Calculus II	4
Foreign Language Elective	3	Foreign Language Elective	3
THEO 111, Theological Foundations	3	PHIL 100, Ethics as Intro to Philosophy	3
		MATH 180, Elements of Discrete Math	3
Total	16	Total	17

Sophomore Year

CSCI 220, Data Structures & Algorithms	3	CSCI 260, Software Engineering	3
CSCI 210, Machine Org & Assembly Lang .	3	CSCI 250, Languages & Automata	3
PHYS 170, University Physics I	3	PHYS 172, University Physics II	3
Theology Scrip/Hist or Christ Sys Elective .	3	PHIL 290, Theory of Knowledge	3
Literature Elective	3	ENGL/CLAS 205, Lit & the Moral Imag	3
Cultural Diversity Elective	1		
Total	16	Total	15

B.S. Computer Science, continued

First Semester *Credit Hours* *Second Semester* *Credit Hours*

Junior Year

CSCI 300, Programming Languages	3	CSCI 310, Compiler Construction	3
PHYS 242, Electronics I	2	PHYS 244, Electronics II	2
PHYS 243, Electronics Lab I	1	PHYS 245, Electronics Lab II	1
History I Elective	3	History II Elective	3
Science Elective	3	Philosophy Elective	3
MATH 156, General Statistics OR		Computer Science Elective	3
MATH 210, Elementary Linear Algebra ...	3		
Total	15	Total	15

Senior Year

CSCI 320, Operating Systems	3	CSCI 390, Senior Seminar & Project +	2
General Elective	3	Computer Science Elective	3
Social Science Elective	3	Social Science Elective	3
Theology Ethics or Rel/Cult Elective	3	General Elective	3
Fine Arts Elective	3		
Total	15	Total	11

+ Students taking Senior Seminar and Project should contact the chair of the Mathematics and Computer Science Department one semester before enrolling in this course.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

REQUIREMENTS FOR THE COMPUTER SCIENCE MINOR

- 16 hours of computer science (or related) courses: CSCI 170, 180, 181, 210, 220, plus one approved 3-hour CSCI elective course.
- A 2.000 cumulative average must be attained in all computer science courses.

SPECIAL NOTE

Students without a strong background in high school mathematics often experience difficulty in computer science courses. All courses require out-of-class time in the computer lab.

See the Department of Information Systems for additional computer courses.

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THE DEPARTMENT OF MODERN LANGUAGES

The Department of Modern Languages offers the Bachelor of Arts and Associate of Arts degrees in French, German, and Spanish. For information on the associate degrees, contact the Center for Adult and Part-time Students (CAPS). Also offered are minors in French, German, Spanish and Latin American Studies, as well as other language courses.

FACULTY

Faculty: DR. RECKER *chair*; DR. CEO-DIFRANCESCO, DR. COMPTON, DR. HODGSON, FR. KENNEALY, DR. KNUTSON, DR. MANTERO, DR. RODENO

Academic Staff: MS. GODDARD, MS. McDIARMID

Adjunct Faculty: American Sign Language - MS. FLEMING, MR. MILLER, MS. MONAHAN, MS. TRUJILLO; French - MS. BIERBAUM-CARDIN, MS. LAJEUNESSE, MS. LOWE-DUPAS; German - MS. HASLER; Italian - MS. FROIKIN; Japanese - MS. SAMBE; Spanish - MS. GARCIA, MS. MERZ, MR. MILETTI, MS. SOTELO, MS. URRUTIA, MS. VASSILIOU, MS. WHARRAM

A placement test is administered to those students who took French, German, or Spanish in high school. The result determines the number of courses needed in order to fulfill the foreign language requirement.

All French/German/Spanish majors must complete a one-credit senior project (FREN/GERM/SPAN 399). All courses must be in the appropriate language (French/German/Spanish) to count towards the major.

BACHELOR OF ARTS DEGREE IN FRENCH, GERMAN OR SPANISH

The programs for majors in French, German, and Spanish offered by the Department of Modern Languages provide an opportunity for the development of proficiency in the spoken and written language, as well as a study of the literature and civilization in areas where the language is spoken.

Requirements for the Modern Languages Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Foreign language requirement included within the major.

Major Requirements

- Placement test to determine which lower division courses are required.
- Completion of 28 hours of upper division courses (300-499) taught in the foreign language:
 - a. French: must include nine hours from those numbered FREN 300-351; nine hours from 420-461 and nine hours of electives from FREN 300-499.
 - b. German: must include nine hours from those numbered GERM 300-351; nine from 410-470 and nine hours of electives from GERM 300-499.
 - c. Spanish: must include SPAN 300 and 301, three additional hours from SPAN 300-306, six hours from SPAN 325-496, three hours of literature from SPAN 400-490, 497 and twelve additional hours from SPAN 300-499.
 - d. Senior project: must complete the one credit course (FREN/GERM/SPAN 399).

Students are encouraged to combine a modern language major with a second major or a related minor.

Undergraduates who wish to be certified as teachers of French, German or Spanish are advised to consult with the department education coordinator, Dr. Diane Ceo-DiFrancesco, and with the Office of Teacher Education in Elet Hall regarding specific requirements for language teacher certification.

REQUIREMENTS FOR THE GERMAN MINOR

- 15 hours of German courses: six hours from GERM 300-351, six hours from GERM 410-470, and three hours of GERM electives. All courses must be in German to count toward the minor.
- A 2.000 cumulative average must be attained in all German courses.

REQUIREMENTS FOR THE SPANISH MINOR

- 15 hours of Spanish courses: three hours from SPAN 300 and 301, twelve additional hours from SPAN 300-499. All courses must be in Spanish to count toward the minor.
- A 2.000 cumulative average must be attained in all Spanish courses.

REQUIREMENTS FOR THE LATIN AMERICAN STUDIES MINOR

- Eighteen (18) hours of courses relating to Latin America: LAS core course taught in English (SPAN 353), one course in language development (SPAN 300-305, 325, 328), one course in Latin American literature (SPAN 427-429, 440-445), one course in theology as approved, one course in Latin American history (HIST 151, 327, 340-344, 428) or Political Science as approved, one elective course from above areas or SPAN 306, 351 or 352 or as approved. Courses will be approved each semester by the program director in consultation with the chair of the appropriate department.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN FRENCH, GERMAN OR SPANISH

Core Curriculum Requirements (see page 96): 31 hours

Concentration Requirements:

- In which zero to twelve credit hours of lower division courses are required as determined by the placement test.
- Five upper division courses in a language:
 - a. French: must include at least six credit hours in language/culture (FREN 300-351), six credit hours in literature (FREN 410-497), and three credit hours of electives.
 - b. German: must include at least six credit hours in language/culture (GERM 300-351), six credit hours in literature (GERM 410-497), and three credit hours of electives.
 - c. Spanish: must include at least six credit hours in language (SPAN 300-306), six credit hours in literature/culture (SPAN 350-445, 495-497), and three credit hours of electives.

For further information contact:

The Department of Modern Languages
513 745-3464
1st Floor Schott Hall

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THE DEPARTMENT OF MUSIC

The Department of Music offers two bachelor's degree programs: the Bachelor of Arts in Music and, in conjunction with the Department of Education, the Bachelor of Science in Music Education. Also offered are minors in music and jazz. The department also offers a broad, general exposure to the field of music through a variety of courses for students as they pursue a liberal arts education. In addition, opportunity for instruction in an applied instrument/voice is available upon departmental approval, as is the opportunity for participation in vocal and instrumental ensembles.

FACULTY

Faculty : MS. BUEL, *chair*; MS. BEEBE, DR. ROEHRIG, DR. SKEIRIK

Adjunct Faculty: MS. ACORD, MS. ANDRES, MS. BEATY, MR. BELL, MR. BOTTOMLEY, MS. CAMPBELL, MR. CAMPIONE, MR. DEFOOR, DR. EAGEN, MR. GARDNER, MR. HART, MS. HART, MR. HINKLE, MR. HUBER, MR. JOHNS, MR. KEENE, MS. KOEPFLE, MS. KOTHEIMER, MR. LEAVITT, MR. MARQUIS, MR. MERCER, MR. MERRILL, MR. NORTON, MR. PARR, MR. PENDERGRASS, MS. SZABO-REYNOLDS, MR. SHERWOOD, MR. STUCKEY, MR. SWISHER, MS. VENNEMEYER, MR. WOOLARD

BACHELOR OF ARTS DEGREE IN MUSIC

Requirements for the Music Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Fine arts requirement included within the major.

Major Requirements

- 34 hours of music courses: MUSC 200, 201, 202, 203, 210, 211, 300, 301, 302, 303, 310, 311, 400, 420.
- 8 hours in applied music.
- 8 semesters of participation in a vocal and/or instrumental ensemble.
- Pass applied music examination at the end of each semester.
- Pass a piano proficiency examination before the senior year.
- Present a recital or write a thesis in major area of concentration during the senior year.
- Recital attendance (minimum of 40 recitals).
- A 2.000 cumulative average must be attained in the music courses.

Students are admitted to the degree programs based upon their musicality and musical literacy rather than on performance accomplishments. Musical background and proficiency in an applied instrument/voice will determine placement within the department. For a copy of Policies and Guidelines, contact the Department of Music Office.

B.A. Music

This block serves as a guideline for progress toward a degree. See your academic advisor

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

History I Elective	3	History II Elective	3
MUSC 200, Theory I	3	MUSC 202, Theory II	3
MUSC 201, Sight-singing & Dictation I	1	MUSC 203, Sight-singing & Dictation II	1
Applied Music	1	Applied Music	1
Ensemble	1	Ensemble	1
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	Literature Elective	3
Mathematics Elective	3	THEO 111, Theological Foundations	3
		Mathematics Elective	3
Total	15	Total	18

BACHELOR OF SCIENCE DEGREE IN MUSIC EDUCATION

(Pre-K - 12)

Requirements for the Music Education Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Social sciences: EDSP 200 and EDFD 110.
- Fine arts requirement included within the major.

Major Requirements

- 51 hours in music courses: MUSC 200, 201, 202, 203, 210, 211, 221, 300, 301, 302, 303, 310, 311, 320, 321, 350, 351, 352, 353, 354, 401, 420, 421.
- 8 hours in applied music.
- Pass applied music examination at the end of each semester.
- 8 semesters of participation in a vocal and/or instrumental ensemble.
- 19 hours of education courses required for degree: EDFD 110, EDSP 200, EDMS 131, EDRE 471, EDMS 350, EDSP 380, and EDMS 411.
- 9 hours of student teaching and seminar (EDMS 471) for certification.
- Pass a piano proficiency examination before the senior year.
- Present a recital or write a thesis in major area of concentration during the senior year.
- Recital attendance (minimum of 40 recitals).
- A 2.000 cumulative average must be attained in the music and education courses.

Students are admitted to the degree programs based upon their musicality and musical literacy rather than on performance accomplishments. Musical background and proficiency in an applied instrument/voice will determine placement within the department. For a copy of Policies and Guidelines, contact the Department of Music.

B.S. Music Education

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

History I Elective	3	History II Elective	3
MUSC 200, Theory I	3	MUSC 202, Theory II	3
MUSC 201, Sightseeing & Dictation I	1	MUSC 203, Sightseeing & Dictation II	1
Applied Music	1	Applied Music	1
Ensemble	1	Ensemble	1
ENGL 101 or 115, Engl Comp or Rhetoric ..	3	THEO 111, Theological Foundations	3
Mathematics Elective	3	Foreign Language Elective	3
Foreign Language Elective	3	Literature Elective or PHIL 100	3
Total	18	Total	18

Sophomore Year

MUSC 210, Music History & Literature I ...	3	MUSC 211, Music History & Literature II ...	3
MUSC 300, Theory III	3	MUSC 302, Theory IV (Comp.)	3
MUSC 301, Sightseeing & Dictation III	1	MUSC 303, Sightseeing & Dictation IV	1
Applied Music	1	Applied Music	1
Ensemble	1	MUSC 221, Methods:Early Mid Childhd ...	2
Mathematics Elective	3	UNST 100, EPU (Cultural Div Elective)	1
EDFD 110, Human Dev & Learning	3	Ensemble	1
EDMS 131, Prof Educ & Field Exp	3	Science Elective	3
		PHIL 100 or Literature Elective	3
Total	18	Total	18

B.S. Music Education, continued

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Junior Year

MUSC 420, Conducting I.....	3	MUSC 421, Conducting II	3
MUSC 350, Functional Piano	2	MUSC 321, Methods:Adol & Yng AdultsII	3
MUSC 351, String Techniques	1	MUSC 352, Woodwind Techniques	1
MUSC 320, Methods:Adol & Yng Adults I.	3	Applied Music	1
Applied Music	1	Ensemble	1
Ensemble	1	EDRE 471, Content Area Literacy	3
PHIL 290, Theory of Knowledge	3	EDMS 411, Clinical Experience	1
MUSC 310, Music History & Literature III.	3	Science Elective	3
		MUSC 311, Music History & Literature IV	3
Total	17	Total	19

Senior Year

MUSC 401, Orchestration/Arranging	3	MUSC 354, Percussion Techniques	1
MUSC 353, Brass Techniques	1	Applied Music	1
Applied Music	1	Senior Recital	0
Ensemble	1	Ensemble	1
EDSP 380, Classroom Management	3	Philosophy Elective	3
EDSP 200, Sp Ed: Id & Issues	3	Theology Ethics or Rel/Cult Elective	3
Science Elective	3	Theology Scrip/Hist or Christ Sys Elective .	3
ENGL/CLAS 205 , Lit & the Moral Imag ...	3	E/RS Focus Elective	3
		EDMS 350, Tech & Topics for Teachers	3
Total	18	Total	18

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 141 credit hours is required for the degree.
- EDMS 471, Student Teaching and Seminar (9 credit hours) is required for state licensure.

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THE DEPARTMENT OF PHYSICS

The Department of Physics offers two degrees: the Bachelor of Science in Physics and the Bachelor of Science in Applied Physics, as well as a minor in Physics. Also, the Bachelor of Science in Teaching Life Sciences and Physics is offered in cooperation with the Department of Education (see page 180).

FACULTY

Faculty: DR. TOEPKER, *chair*; DR. FATUZZO, DR. HERBERT, DR. SCHMITZER, DR. YERIAN

Laboratory Instructor: DR. CLACK, MR. TURPIN

Adjunct Faculty: MS. FROHLICH, MS. KOENIG, MS. ST. LOUIS, MR. WIDMER

BACHELOR OF SCIENCE DEGREE IN PHYSICS

From the tiniest bits of matter to the enormity of the universe, there exists a structure that is based on a surprisingly small number of far-reaching fundamental principles. It is the goal of physics to discover these fundamental principles, often called the "Laws of Nature," and to describe all natural phenomena in terms of these principles. The study of physics should be of particular interest to those who are awed by the mysteries of nature and who wish to share in the unraveling of these mysteries.

Small classes, seminars, individual discussion, and student-faculty research are an integral part of the study program. The physics faculty believes that the best teaching can be done only when there is a direct individual relationship between a student and a good teacher - a situation in which there is close faculty-student interaction for discussing, thinking and exploring.

The department emphasizes hands on experience through modern laboratory and research facilities. These facilities include superconductivity, visible, x-ray, and gamma ray spectroscopy, scanning probe microscopy, analog and digital electronics, coherent optics, holography, and astronomy. Numerous funded projects are available to physics students.

The program in physics is designed to familiarize students with the techniques of mathematical and experimental physics that would be useful to them in an industrial research or engineering position; in physics teaching; as a general preparation for more advanced graduate work in any of the varied fields of physics; or in such disciplines as astronomy, space science, biophysics, computer science, engineering, geophysics, medicine, law, and oceanography.

Requirements for the Physics Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 170 and 171.
- Sciences requirement included within the major.

Major Requirements

- 46 hours of physics courses: PHYS 170, 171, 172, 242, 243, 244, 245, 330, 331, 340, 341, 350, 351, 360, 361, 364, 365, 376, 377, 382, 398.
- 17-18 hours of additional science and mathematics courses: BIOL 160, 161 or CHEM 160, 161; CSCI elective; MATH 220, 230; and a MATH elective (210 or above).
- A 2.000 cumulative average must be attained in the courses within the major.

Specific requirements are modifiable for the needs and interests of each individual student.

REQUIREMENTS FOR THE PHYSICS MINOR

- 18 hours of physics courses: PHYS 160 or 170, 161, 162 or 172, 163, and ten hours of electives (206-399).
- A 2.000 cumulative average must be attained in these courses.

BACHELOR OF SCIENCE DEGREE IN APPLIED PHYSICS

The Applied Physics major has three program options: Engineering Physics, Natural Sciences, and Alternate Concentration. These options are designed to provide a broad education in the physical sciences, mathematics, and liberal arts, along with specialized training for students interested in engineering, medical school, health sciences, education, business, social sciences, or the humanities.

Requirements for the Applied Physics Major

Option A: Engineering Physics

The Engineering Physics option combines a strong liberal arts core with courses in physics, mathematics, and engineering. Students may take engineering courses at the University of Cincinnati in Aerospace, Civil and Environmental, Electrical and Computer, Mechanical, Industrial, and Nuclear Engineering.

In this program, the student matriculates at Xavier for the first three years and in one of the engineering departments at the University of Cincinnati for the fourth year. This program is designed for students who wish to continue their education in some field of engineering. The cooperative program ultimately can lead to a master's degree in engineering.

Xavier University - University of Cincinnati Cooperative Science - Engineering Program

Core Curriculum Requirements:

Cultural Diversity Elective	1	History Elective	6
English Composition/Rhetoric	3	Fine Arts Elective	3
PHIL 100 and 290	6	Liberal Arts Elective *	9
THEO 111 and Theology elective	6	ENGL/CLAS 205, Lit and & Moral Imag ...	3
Foreign Language Elective	6	MATH 170 and 171	8
Ethics/Religion & Society Focus elective	3		

(which may also fulfill one of the core curriculum requirements above.)

* May be taken at the University of Cincinnati.

Major Requirements:

Years one to three:

- 34 hours of physics courses: PHYS 170, 171, 172, 242, 243, 244, 245, 330, 331, 340, 341, 350, 351, 360, 364, and 365.
- 21 hours of additional science and mathematics courses: BIOL 160, 161 or CHEM 160, 161; CSCI elective; MATH 220, 230 and a mathematics elective.
- A 2.000 cumulative average must be attained in the courses within the major.

Year four:

- 23 semester hours of engineering courses at the University of Cincinnati. This work is arranged in cooperation with the student, Xavier University, and the University of Cincinnati. The BS in Applied Physics will be awarded by Xavier upon successful completion of this program.

B.S. Applied Physics
Option A: Engineering Physics

Xavier University - University of Cincinnati Cooperative
Science - Engineering Program

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

PHYS 170, University Physics I 3	PHYS 172, University Physics II 3
PHYS 171, Explorations in Physics 1	Computer Science Elective 3
PHIL 100, Ethics as Intro to Philosophy 3	MATH 171, Calculus II 4
Foreign Language Elective 3	Foreign Language Elective 3
MATH 170, Calculus I 4	ENGL 101 or 115, Engl Comp or Rhetoric . 3
Total 14	Total 16

Sophomore Year

PHYS 242, Electronics I 2	PHYS 244, Electronics II 2
PHYS 243, Electronics I Lab 1	PHYS 245, Electronics II Lab 1
MATH 220, Calculus III 4	MATH 230, Differential Equations 3
BIOL 160/161, Biol I & Lab OR 5	PHYS 340, Nuclear Physics 3
CHEM 160/161, Gen Chem I & Lab 4	PHYS 341, Nuclear Physics Lab 1
THEO 111, Theological Foundations 3	Fine Arts Elective 3
PHYS 330, Atomic Physics 3	Cultural Diversity Elective 1
PHYS 331, Atomic Physics Lab 1	
Total 18/19	Total 14

Junior Year

PHYS 360, Electromagnetism I 3	PHYS 351, Theoretical Mechanics II 3
PHYS 350, Theoretical Mechanics I 3	Theology Scrip/Hist or Christ Sys Elective . 3
Mathematics Elective 3	ENGL/CLAS 205, Lit & the Moral Imag 3
History I Elective 3	PHYS 364, Physical Optics 3
PHIL 290, Theory of Knowledge 3	PHYS 365, Physical Optics Lab 1
	History II Elective 3
Total 15	Total 16

Senior Year

A Bachelor of Science (Applied Physics) will be awarded upon the completion of an additional nine semester hours of liberal arts courses and 23 semester hours of engineering courses taken at the University of Cincinnati. A senior year "block schedule" at the University of Cincinnati depends on the individual student's choice of engineering field.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective is required, but one of the other core requirements may be selected to fulfill the requirement.
- A minimum of 120 credit hours is required for the degree.

Engineering Physics at Xavier

Students who choose the Engineering Physics option may decide to stay at Xavier for their fourth year. They must complete the Xavier Core Curriculum and take 12 hours of program electives beyond the physics requirements listed above. The choice of program electives will depend upon the interests of the student. They must also take PHYS 398, Senior Thesis. Typically, courses are taken in biology, chemistry, computer science, and/or mathematics, but may be taken in other disciplines as well. Specific programs are designed in consultation with the chair.

B.S. Applied Physics Option A: Engineering Physics Four Year Program at Xavier

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
PHYS 170, University Physics I	3	PHYS 172, University Physics II	3
PHYS 171, Explorations in Physics	1	Computer Science Elective	3
PHIL 100, Ethics as Intro to Philosophy	3	MATH 171, Calculus II	4
MATH 170, Calculus I	4	Foreign Language Elective	3
Foreign Language Elective	3	ENGL 101 or 115, Engl Comp or Rhetoric .	3
Total	14	Total	16
Sophomore Year			
PHYS 242, Electronics I	2	PHYS 340, Nuclear Physics	3
PHYS 243, Electronics I Lab	1	PHYS 341, Nuclear Physics Lab	1
THEO 111, Theological Foundations	3	MATH 230, Differential Equations	3
MATH 220, Calculus III	4	Fine Arts Elective	3
BIOL 160/161, Gen Biol I & Lab OR	5	Cultural Diversity Elective	1
CHEM 160/161, Gen Chem I & Lab	4	PHYS 244, Electronics II	2
PHYS 330, Atomic Physics	3	PHYS 245, Electronics II Lab	1
PHYS 331, Atomic Physics Lab	1		
Total	18/19	Total	14
Junior Year			
PHYS 360, Electromagnetism I	3	PHYS 364, Physical Optics	3
PHYS 350, Theoretical Mechanics I	3	PHYS 365, Physical Optics Lab	1
Mathematics Elective	3	Literature Elective	3
Program Elective *	6	PHYS 351, Theoretical Mechanics II	3
		E/RS Focus Elective	3
		PHIL 290, Theory of Knowledge	3
Total	15	Total	16
Senior Year			
Program Elective *	3	PHYS 398, Physics Thesis	1
Theology Scrip/Hist or Christ Sys Elective .	3	Program Elective *	3
History I Elective	3	History II Elective	3
Social Science Elective	3	Social Science Elective	3
Philosophy Elective	3	ENGL/CLAS 205, Lit & the Moral Imag	3
		Theology Ethics or Rel/Cult Elective	3
Total	15	Total	16

* Program Elective: Students may choose appropriate courses from physics, chemistry, biology, mathematics, and computer sciences.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core or the major.
- A minimum of 120 credit hours is required for the degree.

Option B: Natural Sciences

The Natural Sciences option offers an alternative to the Natural Sciences major that allows students to study physics while preparing for medical school. This program may also be of interest to students who wish to pursue careers in biophysics, medical physics, radiological physics, and other health physics programs. The Natural Sciences program combines courses in physics, mathematics, and computer science with the chemistry and biology courses needed to fulfill the requirements for the Natural Sciences minor (see page 107, or 118).

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 170 and 171.
- Science requirement included with the major.
- Social Sciences: PSYC 101 and 3 hours elective.

Major requirements:

- 32 hours of physics courses: PHYS 170, 171, 172, 242, 243, 244, 245, 330, 331, 340, 341, 350, 360, 364, 365, and 398.
- 10 hours of mathematics and computer science: MATH 220 and 230, CSCI elective.
- 17 hours of chemistry courses: CHEM 160, 161, 162, 163, 240, 241, 242 and 243.
- 10 hours of biology courses: BIOL 160, 161, 162, 163.
- A 2.000 cumulative average must be attained in courses within the major.

B.S. Applied Physics

Option B: Natural Sciences

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
Freshman Year			
PHYS 170, University Physics I	3	PHYS 172, University Physics II	3
PHYS 171, Explorations in Physics	1	ENGL 101 or 115, Engl Comp or Rhetoric .	3
BIOL 160, General Biology I	3	BIOL 162, General Biology II	3
BIOL 161, General Biology I Lab	2	BIOL 163, General Biology II Lab	2
MATH 170, Calculus I	4	MATH 171, Calculus II	4
THEO 111, Theological Foundations	3	PHIL 100, Ethics as Intro to Philosophy	3
Total	16	Total	18

Sophomore Year

PHYS 242, Electronics I	2	PHYS 244, Electronics II	2
PHYS 243, Electronics I Lab	1	PHYS 245, Electronics II Lab	1
MATH 220, Calculus III	4	MATH 230, Differential Equations	3
CHEM 160, General Chemistry I	3	CHEM 162, General Chemistry II	3
CHEM 161, General Chemistry I Lab	1	CHEM 163, General Chemistry II Lab	2
Foreign Language Elective	3	PHYS 340, Nuclear Physics	3
Cultural Diversity Elective	1	PHYS 341, Nuclear Physics Lab	1
PHYS 330, Atomic Physics	3	Foreign Language Elective	3
PHYS 331, Atomic Physics Lab	1		
Total	19	Total	18

B.S. Applied Physics
Option B: Natural Sciences, continued

Junior Year

PHYS 350, Theoretical Mechanics I	3	E/RS Focus Elective	3
CHEM 240, Organic Chemistry I	3	CHEM 242, Organic Chemistry II	3
CHEM 241, Organic Chemistry I Lab	1	CHEM 243, Organic Chemistry II Lab	1
Computer Science Elective	3	Literature Elective	3
Fine Arts Elective	3	PHIL 290, Theory of Knowledge	3
Total	13	Total	13

Senior Year

PHYS 360, Electromagnetism I	3	PHYS 398, Physics Thesis	1
History I Elective	3	PHYS 364, Physical Optics	3
PSYC 101, General Psychology	3	PHYS 365, Physical Optics Lab	1
Theology Scrip/Hist or Christ Sys Elective ..	3	Theology Ethics or Rel/Cult Elective	3
Philosophy Elective	3	Social Science Elective	3
		ENGL/CLAS 205, Lit & the Moral Imag	3
		History II Elective	3
Total	15	Total	17

Scheduling Notes:

- Consult the Undergraduate Core Curriculum description on page 94 of the Catalog.
- The E/RS Focus Elective is required, but one of the other Core requirements may be selected to fulfill the requirement.
- A minimum of 126 credit hours is typical to meet degree requirements, with 120 credit hours as the absolute minimum.

Option C: Alternate Concentration

The Alternate Concentration option provides maximum flexibility to students who are interested in pursuing interdisciplinary programs. This program combines the study of physics with a concentrated study in another area or discipline. Concentrations must include at least 18 hours in one chosen area, which allows for all University minors to be included. Areas of concentration may be chosen from the sciences, mathematics, the humanities, the social sciences, business, and education.

Core Curriculum Requirements (see page 94): 64 hours, including

- Mathematics: MATH 170 and 171
- Science requirement included within the major.

Major Requirements:

- 35 hours of physics courses: PHYS 170, 171, 172, 242, 243, 244, 245, 330, 331, 340, 341, 350, 351, 360, 364, 365, and 398.
- 10 hours of additional mathematics and computer science: MATH 220 and 230, CSCI elective.
- 24 hours in an alternate concentration (at least 18 hours in one area). If the concentration is not a science area, then 3 hours of a second science can be included to complete the core.
- A 2.000 cumulative average must be attained in courses within the major.

THE DEPARTMENT OF THEOLOGY

The Department of Theology offers the Bachelor of Arts, the Associate of Arts and the Master of Arts in Theology degrees. For information on the associate degree, contact the Center for Adult and Part-time Students (CAPS). Also offered is a minor in Theology.

FACULTY

Faculty: DR. MADGES, *chair*; DR. AHLGREN, DR. DEWEY, DR. GIBLIN, DR. GOLLAR, DR. GROPPE, DR. HILL, FR. KLEIN, DR. MELCHER, FR. OVERBERG, DR. TAN, DR. TOENSING, FR. TRAUB

Adjunct Faculty: REV. AGEE, DR. AKERS, RABBI BLUESTEIN, MS. BOLTZ, FR. BRACKEN, SR. BROSANAN, MR. COOPER, MR. GABLE, DR. GALLAGHER, SR. GERDEMAN, SR. GRAF, MS. HARTMAN, RABBI KAMRASS, MS. KING, DR. KNITTER, REV. KOSTOFF, MS. MACK, MS. NIEHAUS, DR. RAATH, DR. RAPP, MS. TIMONEY-RAVENNA, MR. SAUERBREY, DR. SNEGOCKI, DR. PHAM

Staff: SR. MILLER

THE BACHELOR OF ARTS DEGREE IN THEOLOGY

Theology is the study both of the human experience of God and of the transmission of that experience through religious traditions, doctrines, ethics, and rituals. It is essentially a dialogue between religious traditions and human experience. Such dialogue is critical for human understanding in a time of increased encounters among world religions.

The theology faculty attempts to assist students in this critical dialogue through courses about religious traditions, especially the Jewish and Christian traditions, and by other courses that focus on contemporary issues from a theological perspective.

The theology major prepares students for graduate studies in theology, law, history, journalism, and other forms of communication, as well as for directing religious education, teaching religious studies in secondary schools, and other forms of ministry. With appropriate counseling, a student can combine this major in the liberal arts with a major in another field (e.g. classics, English, history, psychology, secondary education), both for the student's personal enrichment and in view of broader career opportunities.

Requirements for the Theology Major

Core Curriculum Requirements (see page 94): 64 hours, including

- Theology requirement included within the major.

Major Requirements

- 36 hours of theology courses: THEO 111, 209, 210, 250, 290, 295, 303, scripture elective, non-Christian religious traditions elective, three elective courses (201-499).
- A senior project on which the student will be examined by a faculty committee.
- A 2.000 cumulative average must be attained in the theology courses.

B.A. Theology

This block serves as a guideline for progress toward a degree. See your academic advisor.

<i>First Semester</i>	<i>Credit Hours</i>	<i>Second Semester</i>	<i>Credit Hours</i>
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Freshman Year

ENGL 101 or 115, Engl Comp or Rhetoric ..3	Foreign Language Elective	3
Foreign Language Elective	History II Elective	3
History I Elective	Science Elective	3
Science Elective	PHIL 100, Ethics as Intro to Philosophy	3
THEO 111, Theological Foundations	Literature Elective	3
Total	Total	15

B.A. Theology, continued

First Semester *Credit Hours* *Second Semester* *Credit Hours*

Sophomore Year

Science Elective	3	THEO 250, Intro to Scripture *	3
ENGL/CLAS 205, Lit & the Moral Imag	3	Mathematics Elective	3
Mathematics Elective	3	PHIL 290, Theory of Knowledge	3
Social Science Elective	3	Social Science Elective	3
THEO 209, The Christian Tradition I *	3	THEO 210, The Christian Tradition II *	3
Cultural Diversity Elective	1		
Total	16	Total	15

Junior Year

Philosophy Elective	3	Theology Elective (Scripture)	3
Fine Arts Elective	3	THEO 290, Christian Doctrine Today	3
Theology Elective	3	General Elective **	6
General Elective **	3	E/RS Focus Elective	3
THEO 303, Christian Ethics *	3		
Total	15	Total	15

Senior Year

Theology Elective (non-Christian)	3	Theology Elective	3
THEO 295, Senior Sem: Ideas & Methods *	3	General Elective **	11
Theology Elective	3		
General Elective **	6		
Total	15	Total	14

* Special section for Theology majors.

**Theology majors have at least 26 hours of general electives; it is recommended that these be chosen in one area as a second concentration, rather than a wide dispersal of courses.

Scheduling Notes:

- Consult the undergraduate core curriculum requirements on page 94 of the Catalog.
- E/RS Focus Elective requirement may be used to satisfy another element of the core.
- A minimum of 120 credit hours is required for this degree.

REQUIREMENTS FOR THE THEOLOGY MINOR

- 18 hours of theology courses: THEO 111, THEO 209 or 210, 250, 303, and two electives from 201-499. The core curriculum theology requirement is included in the minor.
- A 2.000 cumulative average must be attained in these courses.

REQUIREMENTS FOR THE ASSOCIATE OF ARTS DEGREE IN THEOLOGY

Core Curriculum Requirements (see page 96): 28 hours, including

- Theology requirement included within the concentration.

Concentration Requirements:

- 18 hours of theology courses: THEO 111, THEO 209 or 210, 250, 303 and two upper division electives.
- A 2.000 cumulative average must be attained in the theology courses.

THE MASTER OF ARTS DEGREE IN THEOLOGY

The Master of Arts degree in Theology is designed especially for those professionally involved in teaching or in directing programs of religious education and for those wishing to further develop previous theological understanding.

Because no definite amount of previous study of theology is prerequisite for admission to the program, students may vary considerably in their preparation. Ordinarily, applicants should have a background in the humanities, but each applicant will be considered individually.

All applicants must have a bachelor's degree from a regionally accredited institution with an undergraduate GPA of 2.700 or better. In addition, all applicants must complete the Miller Analogies Test (MAT) prior to acceptance and obtain a score of 44 or higher.

The MA in Theology will require satisfactory completion of 30 semester hours of graduate work (i.e., ordinarily ten courses), all of which must be at the graduate (500-800) level.

Required courses:

- THEO 504 - Foundations of Scripture Study
- THEO 520 - Survey of Christian Doctrine I
- THEO 524 - Survey of Christian Doctrine II
- One course in ethics
- One course in systematics
- Five graduate-level theology electives.

Some students may substitute a thesis for two of their elective courses. This must be discussed and agreed to with an advisor prior to completion of the first 12 hours of graduate coursework. The thesis will be read by its director and two additional readers, and it must be defended in a final oral examination. Students who do not write a thesis will be required to submit a research paper demonstrating their mastery of research skills and their ability to synthesize key themes from their coursework into a coherent theological position. Students will be examined on this paper by a faculty committee.

The MA program in Theology invites applications from students with a bachelor's degree and a solid academic record. Admission decisions are based on factors such as past academic performance, standardized test score, and other information submitted.

Further information and application materials may be obtained from the Office of Graduate Services, 312 Elet Hall, 513 745-3360.

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SPECIAL COLLEGE OF ARTS AND SCIENCES PROGRAMS

BACHELOR OF LIBERAL ARTS DEGREE

The Bachelor of Liberal Arts is designed for adult transfer students who are interested in taking courses in new disciplines. The general electives and upper division studies requirements allow for efficient transferability of credits and give students the opportunity to design degrees to meet their needs. This degree is offered by the College of Arts and Sciences through the Center for Adult and Part-time Students (CAPS). It is available to any student who has completed a minimum of 60 semester hours with approval of their dean, the dean of the College of Arts and Sciences, and the dean of the Center for Adults and Part-Time Students and to all students who have graduated from high school not less than four years prior to the date of acceptance into the program.

The Liberal Arts degree is available through full or part-time study, days and/or evenings, or through the special accelerated Weekend Degree Program.

Requirements for the Bachelor of Liberal Arts

Core Curriculum Requirements (see page 94): 64 hours

Upper Division Studies Requirement:

- 38 hours of upper division work, with no more than 21 hours from one subject area.
- It is recommended that these 38 hours be distributed across two academic areas.
- Concentrations and minors are available through the Bachelor of Liberal Arts program.
- No more than 30 hours in business courses and no more than 12 hours in any one business subject area may be applied to the degree.
- A minimum of 120 credit hours is required for the degree.

ASSOCIATE OF ARTS DEGREE IN LIBERAL ARTS

This 60 hour program is designed for adult students who are interested in taking courses in several disciplines. The upper division studies requirement allows students to design their degrees through flexibility in course selection. This degree is offered by the College of Arts and Sciences through the Center for Adult and Part-time Students (CAPS) and is available to students who have graduated from high school not less than four years prior to the date of acceptance into the program.

Requirements for the Associate of Arts in Liberal Arts

- Core Curriculum Requirements (see page 96): 31 hours.
- Upper Division Studies Requirement: 20 hours of upper division coursework.
- General electives: 9 hours.
- A minimum of 60 credit hours is required for the degree.