Shawnee State's

1989-1990 CATALOG

Shawnee State University
940 Second Street
Portsmouth, Ohio 45662

To learn more about Shawnee State University, call:

(614) 354-3205 or Toll Free in Ohio: 1-800-344-4SSU

Admission Office Ms. Rosemary Poston, Director ext. 228

1989-1990 CATALOG

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Welcome:

Congratulations to you on making a good decision to attend Shawnee State University!

I and your faculty and staff colleagues are biased in our opinions, of course, but we want you to know that you have joined a family of scholars who are dedicated to teaching and learning.

It is our intent at Shawnee State University to "wind your educational clocks," in the words of the 18th century Danish statesman Nikolai Grundtvig, "so they never stop ticking." You can help us in this endeavor in several ways, not only in the classroom, but also in extracurricular activities and in community involvement projects in southern Ohio.

All of your experiences at Shawnee will be a part of the clock-winding process. Your success in college will depend on how seriously you apply your talents to learning, how fully you participate in the entire life of the University, and how conscientiously you seek out close personal friendships.

This catalog describes the University, its degree requirements, and its courses. While we will help you to prepare for meaningful careers and productive lives beyond a job, I strongly encourage you to use your college years wisely. Explore the world of knowledge this catalog represents. Use the privilege of your college years as a rare opportunity to discover concepts and ideas yet unheard of.

On behalf of the Shawnee State University family, I wish you well in your pursuit of a college education. I hope that it will be my honor to award you a Shawnee State degree upon completion of your studies.

Clive Veri

Clive C. Veri, President
Shawnee State University

Introduction

Shawnee State University: Past and Present

In January of 1975, Shawnee State General and Technical College, created from a merger of the Ohio University regional campus and Scioto Technical College, was chartered by the Ohio Board of Regents to begin operation on July 1, 1975. The college, then operated on two campuses, moved to its present location in 1978. By an act of the Ohio Legislature (Senate Bill 229) on November 4, 1977, Shawnee State General and Technical College became Shawnee State Community College. Then in 1986, another act of the Legislature, put in effect on July 2, created Shawnee State University. Since then, efforts to incorporate baccalaureate degree programs with the already successful associate degree programs have been ongoing.

Located on the Ohio River in downtown Portsmouth, the campus has been expanded from its original five-story building to include eight others. The three newest are the Business Annex, the James Rhodes Sports Center, and the Allied Health Addition. The Business Annex houses the business and academic faculty offices, the Student Union, the print shop, five teaching laboratories, and the expanded Learning Resource Center. The Allied Health Addition houses SSU's Physical Therapist Assistant and Occupational Therapy Assistant programs. The Sports Center houses a junior olympic pool, three racquetball courts, saunas, a whirlpool, and two fully equipped fitness rooms.

A master plan created by Bohm-NBBJ of Columbus, Ohio, with input from many people within and outside of the University, has been set in place. Its first component, a new library, has been designed, and groundbreaking is scheduled for Summer, 1989. Other proposed new buildings include a Fine and Performing Arts Center, a new and expanded student center, and an advanced high technology building.

While Shawnee State's academic curriculum has in the past attracted students who wished to complete the first two years of a baccalaureate degree, the majority enrolled in one of the many technical programs geared toward preparing participants for employment. Those programs continue to grow, as borne out by the addition in recent years of the new Occupational Therapy Assistant and Physical Therapist Assistant progams.

The Continuing Education Department has grown steadily as well, to the point where more than 5,000 participants will have taken part during the 1988-89 academic year. Programs geared toward academically talented children have proven more popular year after year, and Shawnee's Dislocated Workers Program has become a model throughout the state and beyond.

The University has also grown in importance and sphere of influence in other ways as well by offering high quality cultural and educational events to students and the community at large.

Mission Statement

Shawnee State University prepares students for the changing needs of business, industry, education, and society through its diversified degree programs. Recognizing the importance of knowledge, values, and cultural enrichment, Shawnee State University is committed to teaching students to think critically, to act ethically, and to communicate effectively. The University fosters scholarly inquiry, integrative learning, and an interdisciplinary approach to knowledge. To enrich the lives of the community, the University provides opportunities for continuing personal and professional development, intellectual discovery, and appreciation for the creative and performing arts.

Accreditations

Shawnee State University is accredited by the North Central Association of Colleges and Schools to offer baccalaureate and associate degrees and certificates.

In addition, the institution is approved by the following agencies:

American Association of Collegiate Registrars and Admissions Counselors
American Association of Junior Colleges
American Dental Association
American Medical Association, Committee on Allied Health Education and Accreditation
Bureau of Vocational Rehabilitation
College Entrance Examination Board
Commission of Accreditation in Education, American Physical Therapy Association
Ohio Board of Nursing
Ohio Board of Regents
Ohio College Association
Ohio State Department of Education, Division of Vocational Education
Social Security Department
U. S. Office of Education

Calendar

1989-90 Calendar

Summer Quarter, 1989

April 24 - May 12	Walk-in registration for summer quarter
June 16	Last day to pay fees ($20 late fee after this day); Graduation;
June 19	Last day for 100% refund on full term and first five-week session Late registration for summer quarter ($25 fee if enrolled spring quarter); First day of class (no change orders or withdrawals processed)
June 22	Last day to add a five-week course; Last day to apply for pass/fail (first five-week session)
June 26	Last day for 60% refund of instructional fees for first five-week session
July 3	Last day for 80% refund of instructional fees for summer quarter (full session)
July 4	Independence Day—University Closed
July 14	Last day of walk-in registration for fall quarter
July 25	Last day to drop a class; Last day of first five-week session
July 26	Finals for first five-week session; Last day for full refund for second five-week session
July 27	First day of second five-week session; Grades due to provost's office by noon
August 1	Last day to apply for non-credit; Last day for 60% refund of instructional fees for second five-week session
August 9	Early registration for fall quarter; Last day to apply for non-credit
August 10	Early registration for fall quarter
August 31	Quarter ends; Last day to drop a class
September 1	Finals for full session and second five-week session
September 4	Labor Day—University Closed
September 5	Grades due to provost's office by noon

Fall Quarter, 1989

April 24 - July 14	Walk-in registration for fall quarter
September 12	Last day to pay fees for fall quarter ($20 late fee after this day)
September 13	Late registration (no change orders or withdrawals processed)

Fall Quarter, 1989 (cont'd)

September 15	Last day for 100% refund for complete withdrawal for fall quarter session
September 18	First day of classes
September 22	Last day to add a class
September 29	Last day to apply for fall quarter graduation; Last day for 80% refund of instructional fees for fall quarter; Last day to apply for pass/fail
October 9	Columbus Day—University open
October 30	Walk-in registration opens for winter quarter
November 3	Last day to apply for non-credit
November 10	Veterans Day Observed—University closed
November 22	Walk-in registration for winter quarter closes
November 23 - 24	Thanksgiving Holiday—University closed
November 27	Early registration for winter quarter
November 28	Fall quarter ends
November 29 - December 5	Finals
December 5	Last day to apply for winter quarter graduation
December 7	Grades due to provost's office by noon

Winter Quarter, 1989-90

October 30 - November 22	Walk-in registration for winter quarter
December 25 - 26	Christmas Holiday—University closed
December 28	Last day to pay fees for winter quarter
December 29	Last day for 100% refund for complete withdrawal from winter session
January 1	New Year's Day—University closed
January 2	Late registration for winter quarter (no change orders or withdrawals processed); First day of classes
January 9	Last day to add a class
January 15	Martin Luther King Day—University closed
January 16	Last day to apply for pass/fail; Last day for 80% refund of instructional fees for winter quarter
January 23	Walk-in registration for spring quarter opens
February 1	Last day to petition for spring quarter graduation (and participate in June Commencement)
February 9	Walk-in registration closes at noon
February 19	President's Day—University open
February 21	Early registration for spring quarter
February 22	Last day to apply for non-credit
March 12	Quarter ends; Last day to drop a class
March 13 - 19	Finals
March 21	Grades due to provost's office by noon

Spring Quarter, 1990

January 23 - February 9	Walk-in registration for spring quarter
March 27	Last day to pay fees; Last day for 100% refund for complete withdrawal from spring quarter
March 28	First day of classes; Late registration (no change orders or withdrawals processed)
April 4	Last day to add a class
April 11	Last day for 80% refund of instructional fees for complete withdrawal from spring quarter; Last day to apply for pass/fail
April 25	Walk-in registration opens for summer and fall quarters
May 11	Walk-in registration for summer quarter closes
May 15	Last day to apply for non-credit
May 23	Early registration for summer quarter
May 28	Memorial Day—University closed
June 5	Spring quarter ends
June 6 - 12	Finals
June 14	Graduation practice; Grades due to provost's office by noon
June 15	Graduation

1990-91 Calendar

The following schedule for the 1990-91 academic year is tentative and subject to change.

Summer Quarter, 1990

April 25 - May 11	Walk-in registration for summer quarter
June 15	Last day to pay fees ($20 late fee after this day); Graduation; Last day for 100% refund on full term and first five-week session
June 18	Late registration for summer quarter ($25 late registration fee if enrolled spring quarter); First day of class (no change orders or withdrawals processed)
June 21	Last day to add a five-week course; Last day to apply for pass/fail (first session)
June 25	Last day for 60% refund of instructional fees for first five-week session
July 2	Last day for 80% refund of instructional fees for complete withdrawal from full summer quarter session
July 4	Independence Day — University closed
July 13	Last day of walk-in registration for fall quarter
July 24	Last day to drop a class; Last day of first five-week session

Summer Quarter, 1990 (cont'd)

July 25	Finals for first five-week session; Last day for full refund for second five-week session
July 26	First day of second five-week session; Grades due to provost's office by noon
July 31	Last day to apply for non-credit
August 1	Last day for 60% refund of instructional fees for complete withdrawal from second five-week session
August 8	Early registration for fall quarter; Last day to apply for non-credit
August 9	Early registration for fall quarter
August 30	Quarter ends; Last day to drop a class
August 31	Finals for full quarter and second five-week session
September 3	Labor Day — University closed
September 4	Grades due to provost's office by noon

Fall Quarter, 1990

April 25 - July 13	Walk-in registration for fall quarter
September 11	Last day to pay fees for fall quarter
September 12	Late registration (no change orders or withdrawals will be processed)
September 14	Last day for 100% refund of instructional fees for complete withdrawal from fall quarter session
September 17	First day of class
September 21	Last day to add a class
September 28	Last day to apply for fall quarter graduation; Last day for 80% refund of instructional fees for complete withdrawal from fall quarter; Last day to apply for pass/fail
October 8	Columbus Day — University open
October 29	Walk-in registration opens for winter quarter
November 2	Last day to apply for non-credit
November 9	Veterans Day observed — University closed
November 21	Walk-in registration for winter quarter closes
November 22 - 23	Thanksgiving Holiday — University closed
November 26	Early registration for winter quarter
November 27	Quarter ends
November 28 - December 4	Finals
December 4	Last day to apply for winter quarter graduation
December 6	Grades due to provost's office by noon

Winter Quarter, 1990-91

October 29 - November 21	Walk-in registration for winter quarter
December 25 - 26	Christmas Holiday — University closed
December 28	Last day to pay fees for winter quarter

Winter Quarter, 1990-91 (cont'd)

December 28	Last day for 100% refund for complete withdrawal from winter session
January 1	New Year's Day — University closed
January 2	Late registration for winter quarter (no change orders or withdrawals processed); First day of classes
January 9	Last day to add a class
January 14	Martin Luther King Day — University closed
January 15	Last day for 80% refund of instructional fees for complete withdrawal from winter quarter.
January 16	Last day to apply for pass/fail
January 22	Walk-in registration for spring quarter opens
January 31	Last day to petition for spring quarter graduation (and participate in June Commencement)
February 8	Walk-in registration closes at noon
February 18	President's Day — University open
February 20	Early registration for spring quarter
February 21	Last day to apply for non-credit
March 12	Quarter ends; Last day to drop a class
March 13 - 19	Finals
March 21	Grades due to provost's office by noon

Spring Quarter, 1991

January 22 - February 8	Walk-in registration for spring quarter
March 27	Last day to pay fees; Last day for 100% refund for complete withdrawal from spring quarter
March 28	First day of classes; Late registration (no change orders or withdrawals will be processed)
April 4	Last day to add a class
April 11	Last day for 80% refund of instructional fees for complete withdrawal from spring quarter; Last day to apply for pass/fail
April 25	Walk-in registration opens for summer and fall quarters
May 10	Walk-in registration for summer quarter closes
May 15	Last day to apply for non-credit
May 22	Early registration for summer quarter
May 27	Memorial Day — University closed
June 5	Spring quarter ends
June 6 - 12	Finals
June 13	Graduation practice; Grades due to provost's office by noon
June 14	Graduation

Services, Fees, and Facilities

Admission to the University

Admission to degree programs at Shawnee State University is open to graduates of state chartered or regionally accredited high schools and to students who have earned high school equivalency through the General Education Development (GED) program. However, admission to the University does not guarantee admission to specific programs of study. Students who intend to apply for admission to programs in the School of Allied Health and Nursing should refer to the appropriate section of this catalog for specific admission requirements.

Admission to students not seeking a degree at Shawnee State University is also open. The minimum requirements for admission of all students, both degree seeking and non-degree seeking, include:

- a completed application for admission
- a $20 non-refundable application fee

There are varying additional requirements for students in different categories, including recent high school graduates, transfer students, special non-degree students, transient students, international students, and eligible students who are still attending high school. Requirements for each are discussed in the following sections.

It is recommended that the high school background of the entering freshman pursuing a degree include:

- 4 units English
- 3 units mathematics (algebra 1 and 2, geometry)
- 3 units social studies
- 3 units science
- 2 units foreign language
- 1 unit visual, performing arts (drama, music, art)

These courses are recommendations, not requirements. However, students who have deficiencies in English or mathematics will be required to take developmental courses prior to attempting college level work.

Degree and Certificate Students

All students pursuing the four-year baccalaureate or two-year associate degrees, or the one-year certificate are required to have scores from the ACT or SAT forwarded to Shawnee State University. Only applicants who are 21 years of age or older are exempt from providing ACT or SAT scores.*

Although Shawnee State University has an open admission policy and does not use the ACT or SAT for determining admission to the University, it does require results of these tests for use in advisement and placement. Students who have not yet taken the ACT or SAT may contact the Shawnee State University Admission Office for information about future ACT test dates. Applicants who have not taken the ACT or SAT will be accepted as "provisional students" but must take the ACT during the initial quarter of enrollment. Students who have not taken the ACT by the end of their first quarter of attendance will not be permitted to register for subsequent quarters.

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*The American College Test (ACT) is required of **all** applicants for admission to some of the Allied Health Programs. Specific information about required scores is stated in that section of the catalog.

Recent High School Graduates

Students who are recent high school graduates are required to submit a final, official transcript of academic work to Shawnee State University. Students may send a high school transcript request form (available in the Admission Office) or a written request to the high school requesting an official transcript to be forwarded directly to the University. Students who have successfully completed the GED may use the special GED transcript request form (available in the Admission Office) to have official GED transcripts sent to the University, or they may request official transcripts directly from the State GED Office, Ohio Department of Education, 65 South Front Street, Room 812, Columbus, Ohio 43266-0308.

Transcripts should be mailed to the following address: Office of Admission, Shawnee State University, 940 Second Street, Portsmouth, Ohio 45662-4303. Transcripts must be received directly from the high school or State GED Office. Photocopies and hand-carried transcripts will not be accepted.

Advanced Placement

Shawnee State University recognizes that some courses completed in high school or vocational school may be equivalent to some entry-level coursework at Shawnee State. In order to avoid repetition of such courses and to encourage advanced study in the respective disciplines, Shawnee State has entered into "Articulation Agreements" with many high schools, vocational schools, and school districts. This allows the award of advanced placement (AP) credit for certain coursework completed at the high school where articulation agreements are in place. Such AP credit waives the student's course requirement. A more advanced class must be completed to replace the waived course.

Please contact the registrar or your high school counselor for information concerning eligibility for AP credit.

Undeclared Major/Undecided Student

Students who intend to pursue a degree but are undecided as to a major may remain "undeclared" until they earn their first 45 quarter hours of credit. At the completion of 45 hours, undeclared students will be required to declare a major or be prohibited from registering for classes.

Transfer Students

Students who have attended other regionally-accredited colleges or universities may transfer to Shawnee State University provided they were in good academic standing at the institution attended most recently. In addition to the application for admission, application fee, and official high school transcript, transfer students are required to provide an official transcript from each college or university previously attended. High school, GED, and college transcripts must be received directly from those institutions. Photocopies and hand-carried transcripts will not be accepted. Transfer students may be admitted as "provisional students" until such time as the official transcripts are received from all previous colleges.

Transfer students who have earned fewer than 90 quarter hours of credit and are under 21 years of age are required to take the ACT. They may attend Shawnee State as "provisional students" but must take the ACT during the initial quarter of enrollment. Transfer students who must take the ACT and have not taken it by the end of their first quarter of attendance will not be permitted to register for subsequent quarters.

Credits applicable to the curriculum for which the student is applying which were earned at regionally accredited colleges or universities are accepted at the time of admission. Generally, courses completed with a grade of "C" or better are eligible for transfer. Normally, a "D" is not transferable; however, if the "D" is part of a course sequence in which the student's average grade is "C" or better, a "D" may be transferred. The credit hours transferred do not become a part of the grade point ratio.

To receive transfer credit, the student must file an official transcript of previous college work and a transfer credit request form with the Director of Transfer Placement. A maximum of one-half of the total credit hours required for the completion of a baccalaureate degree may be accepted as transfer credit. A student must earn a minimum of 30 credit hours at Shawnee State University to be considered for the award of an associate degree and a minimum of 45 credit hours to be considered for the award of a baccalaureate degree.

Students who have attended non-regionally accredited colleges or universities may transfer to Shawnee State University provided they meet all admission standards applicable to other transfer students. Credits applicable to the curriculum for which the student is applying which were earned at non-regionally accredited institutions will be considered for acceptance as transfer credit if:

a. the student has completed the associate degree at that institution, and
b. the student validates the award of credit by completing, with a grade of "C" or better, a planned program of courses totaling a minimum of 30 credit hours applicable to a four-year curriculum as approved by the Registrar.

For students transferring credit from non-regionally accredited colleges or universities, a maximum of 90 quarter hours will be considered for transfer. A student must earn a minimum of 45 quarter hours at Shawnee State University to be considered for the award of a baccalaureate degree.

International Students

International students are required to file an application for admission, a $20 application fee (this fee may be deferred until registration), and official transcripts and certificates for all secondary and post-secondary studies. Transcripts and certificates which are not in English must be accompanied by official translations. International students must also provide proof of medical insurance prior to registration for classes.

For students whose native language is not English, the official scores on the Test of English as a Foreign Language (TOEFL) must be forwarded to the Office of Admission directly from the Educational Testing Service, Box 592, Princeton, New Jersey 08540. A minimum score of 500 is required for admission to the University without restriction. Applicants who score between 400 and 499 may be admitted to the English as a Second Language (ESL) program. This program has limited enrollment, so early application is recommended. Admission requirements are the same as for those international students with TOEFL scores above 500. The application for admission, official TOEFL scores, transcripts/translations, and other required documentation must be submitted 60 days prior to the first day of classes during the quarter in which the international student plans to begin studies.

The budget for an international student at Shawnee State University for the 1989-90 academic year is $7843. Applicants must present a statement from a U.S. bank indicating that the student has resources equal to the amount needed to support the student for the academic year. This statement is required each year that the student attends Shawnee State University. Applicants who are sponsored by their government are required to have a letter of financial support in their file prior to being issued an I-20. A letter of financial support is required each year that the student attends Shawnee State University.

International students accepted for admission will receive an acceptance letter and an I-20 form to be used to secure a student visa. The acceptance letter and the I-20 will not be issued until the Office of Admission has received all required materials from foreign applicants. To be assured consideration for admission, all required materials must be received 60 days prior to the beginning of the quarter in which the applicant plans to enroll.

Questions pertaining to a student visa should be directed to the local office of the Department of Immigration. All international students must show a non-immigrant "F-1" visa to register for classes.

Non-Degree Students

Special Non-Degree Students

Students who are not interested in pursuing a degree but who wish to take courses are required to file an application for admission with the $20 application fee. Transcripts of high school and college work are not required, nor is ACT/SAT testing. However, if at a later time, the non-degree student decides to pursue a degree program, all admission requirements in effect at the time of initial enrollment must be met. These requirements include official transcripts from high school (and/or GED) and college work, and testing, recommendations, etc., if any of these are required for the major being declared.

Students enrolled in the GED program are special, non-degree students and, as such, are not required to take the ACT. If, after completion of the GED, a student wishes to pursue a degree, the student will be subject to requirements for admission of a degree applicant.

Special, non-degree students may take courses which have no prerequisites or courses for which the student has the appropriate prerequisite. For courses assuming prior knowledge or a certain degree of proficiency, placement testing may be advised or required prior to registration.

Transient Students

Students who are enrolled at or seeking a degree at another college or university, but who wish to take coursework temporarily at Shawnee State University, are considered transient students. As non-degree students (at Shawnee State) said students are required only to file an application for admission with the $20 application fee.

Although transcripts of high school and college work are not required of transient students, such transcripts, especially those from the individual's home campus, are helpful in advising appropriate coursework. Unofficial transcripts or grade cards are required if these are needed to verify prerequisites for courses to be taken at Shawnee State University.

Transient students are strongly advised to consult with the appropriate counselor or advisor at the home college or university as to the appropriate coursework to be taken at Shawnee State and how that coursework will transfer to the home campus of the transient student.

In the event a transient student decides to seek a degree at Shawnee State University, he or she will become a "transfer student" and will be bound to all requirements for a degree-seeking (transfer) student, including whatever requirements existed for the major to be pursued at Shawnee State at the time of initial enrollment.

High School Students

Students who are still enrolled in high school may attend Shawnee State University on a part-time basis. The application for admission and $20 application fee must be accompanied by a recommendation by the high school principal or counselor and written consent by parents or guardian. Letters of recommendation and permission must be submitted each quarter of enrollment.

Senior Citizens

Shawnee State University admits senior citizens (60 years of age or older) for courses, on an audit, space available basis. Although formal application and registration are required, no fees are charged. Senior citizens who wish to take courses for credit are charged the usual tuition and fees.

Fees and Expenses

Registration fees are payable at the Bursar's Office prior to the opening of classes and in accordance with instructions issued with your quarterly bill. For students registering during late registration, fees are assessed as part of the registration process and are due at that time. Fees may be paid by cash, check, money order, Visa, or MasterCard. It is important that the student retain all fee receipts.

Payment of fees owed is a prerequisite to official enrollment, and all students should have sufficient funds (cash and/or financial aid) to cover expenses. A review of students enrolled will be made the 14th day of each quarter, and any student showing a balance due will be administratively dismissed.

Student Load

Students scheduled for 12-20 credit hours are considered full-time students. Students scheduled for fewer than 12 credit hours are considered part-time students. The permission of the Registrar is required for students scheduling over 20 hours of credit. See fee schedule for extra hour fees.

Student Fees*

Full-Time Students

Quarterly Instructional Fee	$525.00
Quarterly General Fee	61.00
Quarterly Out-of-State Fee	225.00
Quarterly Out-of-State District Fee	150.00

(Lewis, Boyd, and Greenup Counties, Kentucky and Cabel County, West Virginia)

Part-Time Students

Quarterly Instructional Fee	$44.00/cr. hr.
Quarterly General Fee	5.00/cr. hr.
Quarterly Out-of-State Fee	20.00/cr. hr.
Quarterly Out-of-State District Fee	13.00/cr. hr.

(Lewis, Boyd, and Greenup Counties, Kentucky and Cabel County, West Virginia)

*Shawnee State University reserves the right to make, without prior notice, any fee adjustments that may become necessary.

Special Fees

Application	$20.00
Late Registration	25.00
Late Payment	20.00
Transcript	2.00
Graduation	30.00
Credit by Exam	40.00
Credit by Arrangement	60.00
Tutoring	1.00
Change Orders	5.00
Lab Fees	see below

Lab Fees

The current schedule of lab fees is available in the Bursar's Office.

Bad Check Policy

Payment of fees owed is a prerequisite to official enrollment, and all students should have sufficient funds (cash and/or financial aid) to cover these expenses.

A check returned for insufficient funds is a federal offense and constitutes nonpayment of your obligation to Shawnee State University. Therefore, any student who has a check returned for insufficient funds, and the same is not cleared by the 14th day of the quarter, shall be considered in noncompliance with institutional policy and will be administratively dismissed.

Any student administratively dismissed due to a bad check has no recourse for readmission for the current quarter.

Student Insurance

Shawnee State University provides all full-time students with the benefit of a comprehensive health insurance policy. You may pick up a Student Insurance Program Brochure at the Bursar's Office. Questions concerning student health insurance should be referred to the Bursar's Office.

Refund of Fees

Continuing students dropping hours by change order prior to or during the first 14 days of the quarter, when such changes result in a reduction of fees, are entitled to receive a 100 percent refund of the reduction. Changes made after the 14th day of the quarter will result in no refund.

Students who officially withdraw from Shawnee State will receive a refund, if due, based upon the following schedule. Students who do not officially withdraw are not eligible for any refund, and fees assessed are due and payable.

Time of Withdrawal

Regular Term

Prior to first day of classes	100% of Tuition
1 to 14 calendar days	80% of Instructional Fee
Over 14 calendar days	No refund

Summer and Five-Week Session

Prior to first day of classes ..... 100% of Tuition
1 to 5 calendar days ..... 60% of Instructional Fee
Over 5 calendar days ..... No refund

Please Note: This refund schedule will apply to students registered only in a five-week session. Students taking classes from both a regular quarter and a five-week session will be issued refunds under the regular term policy.

Questions concerning the above information should be referred to the Bursar's Office.

Late Registration and Late Payment Policy

A late registration fee of $25 will be assessed all students enrolled in the previous quarter that do not register during the announced early registration period.

A late payment fee is normally not applicable since payment is a prerequisite to registration. However, should exceptions be made to the Registration Fee section, a late payment of $20 will be assessed by the Business Office.

Miscellaneous Fees

Application Fee

A $20 non-refundable application fee must accompany all admission applications.

Transcript Fee

The University will produce an official transcript upon written request from the student at a cost of $2 per copy. Unofficial transcripts, copies of schedules, etc. are available at a charge of $1 per copy.

Change Order Fee

A fee of $5 will be assessed for each change order processed.

Graduation Fee

A $30 graduation fee is required. Students are not billed for this fee. It is the student's responsibility to pay this at the time of submitting the petition to graduate. Student eligibility to graduate is determined by the Registrar after the student petitions for graduation.

Financial Aid

An extensive financial aid program is available to assist students in meeting some of the expenses of a college education. The financial aid program is administered by the Financial Aid Office. The program includes four categories: scholarships, grants, loans, and employment.

Scholarships: The University administers a limited number of special scholarships for students demonstrating a high degree of academic ability or special talents. Students interested in scholarships should contact the Financial Aid Office.

Grants: The University administers three types of grant programs: the Ohio Instructional Grant (O.I.G.), the Pell Grant, and the Supplemental Educational Opportunity Grant (SEOG). Grants are not repaid. Interested students should contact the Financial Aid Office.

Loans: Questions regarding state or federal guaranteed loans should be addressed to the student's local bank or lending agency.

Emergency loans are available on a limited basis to students needing short-term assistance with direct or related educational expenses. Amounts of these loans are not to exceed $50.

College Work Study: The college work study program is available to students who can demonstrate financial need through the completion of the Financial Aid Form (FAF).

To be considered for these programs, a student must complete the FAF and submit it to the College Scholarship Service (CSS). Ohio residents must complete the Ohio Instructional Grant Application and submit it to the Ohio Board of Regents. Once Shawnee State has this information, the student's file is complete and an award notice is sent.

Veterans' Benefits

The programs at Shawnee State are approved by the State Approving Agency for the education of veterans and their eligible dependents. Students interested in V.A. benefits should contact the Financial Aid Office.

Orientation

Student orientation is required of every degree-seeking student entering Shawnee State University. The orientation process includes assessment in mathematics, English, and reading with subsequent placement into the appropriate initial courses in mathematics and English. No student may register for a mathematics or English class without having completed this assessment.

Additionally, students are advised as to their initial quarter classes, registered for those classes, given a tour of the campus, and provided with information concerning services available and academic rules and regulations.

Student orientation is scheduled well in advance of each quarter, with additional dates to accommodate late registrants. For more information, please contact the Office of the Registrar.

Student Academic Assessment Services

All first-time, entering, degree-seeking students must participate in the university's academic assessment and placement program prior to registering for English and mathematics courses. Students entering the University with credits from other colleges or universities must participate in the assessment program if they lack transferable English and/or mathematics credits.

The academic assessment program directs students into the university curriculum to ensure that entering students register for courses that match their level of academic preparedness for college-level coursework. Testing is mandatory, and placement is determined by test scores and other factors. These factors are determined by the appropriate division and may include ACT scores, high school background information, etc. Upon being admitted to the University and as part of the admissions packet, students will receive information about how to schedule an appointment for academic assessment.

Developmental Education

If students lack college-level academic skills in basic English, mathematics, and/or science, they may choose or be advised to take developmental courses in these areas.

Furthermore, in instances where placement test outcomes indicate an explicit need for college preparatory coursework, students are required to take certain developmental courses before registering for some university courses.

Developmental courses provide underprepared students an opportunity to gain the skills and knowledge necessary to attempt college-level coursework. They are intended for students who have had no background in a subject (e.g., biology and physics), inadequate preparation in a subject (e.g., English, mathematics, reading), or have been away from school and need review.

The following are developmental courses. Their descriptions are found in the "Course Description" section of this catalog, beginning on page 105.

BIOL 099 Fundamental Biology
ENGL 095 Basic Writing 1: Mechanics
ENGL 097 Reading Development 1
ENGL 098 Reading Development 2
ENGL 099 Basic Writing 2: Paragraphs and Essays
ENGL 100 College Reading and Learning Strategies
MATH 099 Fundamental Mathematics
PHYS 099 Fundamental Physics

Academic Policies and Information

Academic Integrity

Students at Shawnee State University are required to do their own work on all tests and assignments. Any form of cheating may result in the student's being withdrawn from a particular course or courses, as well as possible dismissal from the University. (See *Student Handbook.)*

Grading/Awarding of Credit

Final grades are mailed at the end of each quarter by the Office of the Registrar. Grades will not be issued orally.

Grade	Description	Quality Points
A	Excellent	4.00
A-		3.67
B+		3.33
B	Good	3.00
B-		2.67
C+		2.33
C	Average	2.00
C-		1.67
D+		1.33
D	Poor	1.00
D-		0.67
F	Failing	0.00
TC	Transfer Credit	0.00
KE	Credit by Exam	0.00
NC	No Credit	0.00
WD	Withdrawal	0.00
I	Incomplete	0.00
P	Pass	0.00
AP	Advanced Placement	0.00

A grade of "F" receives no credit. Students making this grade must repeat the course if credit is to be received.

Incomplete Grades

Students unable to attend class for extended periods of time may contact the faculty member responsible for the class to request an incomplete grade. Incompletes must be converted to a grade 30 class days into the next quarter or they will be recorded as "F's."

Dean's List

Full-time students (12 or more hours per quarter) who achieve a 3.5 or better grade point ratio will be placed on the dean's list for that quarter.

Pass/Fail Option

Students may take courses on a pass/fail option by completing the proper forms with the Office of the Registrar. Forms for pass/fail must be completed within the first ten class days of a regular quarter and five class days of a five-week summer quarter. The student's decision to take a class on a pass/fail basis is not subject to change. Students may not take more than one class per quarter on a pass/fail basis without approval of their academic advisor.

Credit by Examination

Students have the opportunity to fulfill requirements for selected courses offered at Shawnee State University by examination. Students interested in pursuing this educational option should first secure the advice of an advisor or program director as to its appropriateness for the student's program of study. Since all courses are not available on a "by examination" basis, the student should then contact the appropriate chairperson. The chairperson, after consultation with appropriate faculty, will make a determination as to the feasibility of the student's request.

A fee of $30 is charged for Course Credit by Examination. Approved proficiency will be recorded as "KE" on the student's transcript. Credit by examination is not included in the calculation of cumulative grade point ratio.

Students are not eligible to take a proficiency examination for a course in which they have been enrolled for 20 class days or more.

Credit given by examination does not apply toward the 30 hour residency requirement for graduation.

College Level Examination Program (CLEP)

Students may be awarded credit for College Level Examinations taken under the College Entrance Examination Board. Students taking the general examinations in English composition, mathematics, natural sciences, humanities, social sciences, and history with the recommended scores of the Commission on Educational Credit and Credentials of the American Council on Education (ACE) will be given "KE" credit for the first sequence course in the above areas.

Many subject examinations may be used to earn "KE" credit for courses in subject areas of the examinations. Students must achieve recommended ACE scores to receive credit.

Credit given through the College Level Examination Program does not apply toward the 30 hour residency requirement for graduation.

Repeating Course Work

Courses attempted prior to January 1, 1987, may be repeated with the transcript reflecting only the grade earned. All courses attempted after January 1, 1987, will be reflected on the transcript. The repeated course will be indicated by the symbol "R."

Changing Grades

Students questioning course grades must work through the faculty member responsible for the class. If you question a grade received, contact the faculty member.

Grade Point Ratio

Quality points for a course are determined by multiplying the total credit hours by the numerical equivalent of the letter grade received in the course. The formula for calculating grade point ratio is:

$$\frac{\text{Total Quality Points}}{\text{Total Hours Attempted}} = \text{Grade Point Ratio}$$

Academic Probation

Students achieving a grade point average of 1.5 or less for any quarter is placed on academic probation for the following quarter provided their cumulative grade average does not fall below that required to remain enrolled. (See academic dismissal section below.)

Academic Dismissal

Students are academically dismissed when their cumulative grade average falls below the following:

Credit Hrs. Attempted	21-40	41-55	56-65	66-75	76-85	86 and above
Cumulative G.P.A.	0.75 or below	1.00 or below	1.25 or below	1.50 or below	1.75 or below	1,90 or below

Students academically dismissed are eligible to re-enroll after one quarter.

Non-Credit

Students may elect to take a course for non-credit during the first 35 class days of a quarter (17 days of the 5-week summer sessions) by completing the proper forms in the Office of the Registrar.

Credit by Arrangement

Students have the opportunity to fulfill requirements for selected courses offered at Shawnee State University by arrangement. Students interested in pursuing this educational option should first secure the advice of their faculty advisor as to its appropriateness for the student's program of study. Since all courses are not available on a "by arrangement" basis, the student should then contact the appropriate dean, director, or chairperson. This individual, after consultation with appropriate faculty, will make a determination as to the feasibility of the student's request.

Students may earn up to 18 credit hours toward graduation with all credit being considered resident credit. The student is limited to eight hours of credit by arrangement per quarter. Students enrolling in a course by arrangement have until the date grades are due the following quarter to have all work completed in the course.

See fee schedule for course by arrangement fees.

Internship Guidelines

Programs requiring internship as part of the graduation requirements have guidelines for internship established by faculty. Students are urged to request a copy of these guidelines from faculty advisors.

Faculty Advising

Academic advising is provided by faculty advisors. The purpose of faculty advisement is to assist students with their immediate academic concerns. Faculty members meet with students by appointment, and each faculty member has available hours posted near his or her office.

Faculty Expectations and Responsibilities

Faculty expect regular and punctual attendance at all classes. Attendance policy for individual classes is made by the faculty member responsible for the class. Grades are controlled by the faculty member responsible for the class.

In the event that a faculty member is not present at the normal time class begins, students are to remain in the classroom an additional 15 minutes. If the class meets once a week for 3 to 5 hours, students must remain in the classroom for 45 minutes. If the faculty member has not arrived or no special instructions have been received, students may leave class without penalty.

All faculty members post office hours during which they are available to discuss individual problems relating to students' academic progress. Students are encouraged to take full advantage of the advisors.

Visitors to Class

Students planning to bring a visitor to a class with them are requested to obtain permission of the faculty member responsible for the class in advance of the visit.

Adding a Class

Students may add a class to their schedule during the first five class days of the quarter (five days of a five-week summer session) by completing a change order in the Office of the Registrar. A fee of $5 is assessed for each change order.

Withdrawing from a Class

Students may withdraw from a class through the last day of the quarter by completing a change order form at the Office of the Registrar. A $5 fee is assessed for each change order. See fee schedule for refund policy.

Withdrawing from College

Students withdrawing from college when classes are in session must complete the proper forms in the Office of the Registrar. Grades for scheduled classes are recorded as withdrawals (WD). See fee schedule for refund policy.

Students not following the withdrawal procedure are considered enrolled in the class and are graded accordingly.

Transcripts/Grade Reports

Each quarter students receive a grade report that includes grades achieved that quarter. Students having errors in grade reports should contact the Registrar immediately.

Students may request transcripts from the Office of the Registrar. Requests for official transcripts must be in writing and addressed to the Office of the Registrar. Transcript fees are $2.

Graduation Requirements

In order to graduate, a student must have successfully completed all course requirements and have achieved a 2.0 cumulative grade point ratio in all coursework *and* in his or her major field of study. Students having outstanding institutional bills or notes are not issued a degree. All students are required to earn a minimum 30 hours of credit at Shawnee State in order to be eligible for graduation. Students must petition to graduate prior to the quarter they intend to graduate. Petitions are available in the Office of the Registrar.

Please Note: Students in allied health and nursing majors must be in good standing in order to graduate.

Graduation with Honors

Students who achieve a cumulative grade point ratio of 3.5 or above prior to the quarter of graduation are graduated with honors. Students who have achieved a cumulative grade point ratio of 3.7 or above prior to the quarter of graduation are graduated with high honors.

Continuing Education

Shawnee State University is committed to serving the educational needs of learners of all ages. Through the Office of Continuing Education, the doors of educational opportunity are open to more than 5,000 lifelong learners annually. An array of noncredit instructional programs are geared to meet a wide range of interests, abilities, and objectives.

Continuing Education strives to meet a variety of educational needs of its public, both on and off campus. Continuing Education works with business, industry, social agencies, and organizations to develop quality programs to help individuals pursue career endeavors and satisfy professional training needs. Each year the interest of youth is broadened through sport camps and academic camps for the talented and gifted. In an effort to serve special interest groups, the Office of Continuing Education has actively pursued grants funding and developed programs for displaced workers, small business owners, economically disadvantaged youth, and senior citizens.

In addition, Continuing Education serves as the home for Emergency Care Educational Programs and the Center for Business and Industry. For further information about course schedules or program development, contact the Office of Continuing Education.

Center for Business and Industry

The rapid changes in technology and the resulting reorganization that is taking place in business and industry today demands that companies upgrade the skills of their employees to meet the challenges of tomorrow.

The increased importance of human resources necessitates that Shawnee State University increase its responsiveness to non-traditional training and professional development needs and programs.

The Center for Business and Industry's programs include short-term and non-traditional credit courses, noncredit continuing education and professional development training packages, and assessment of specific training needs. The Center for Business and Industry is also responsible for general coordination of all activities of the University that impact business and industry, including the coordination of the Ohio Technology Transfer Organization (OTTO) program.

Emergency Care Educational Programs (EMT/Paramedic)

The paramedic program is designed to prepare persons who can provide life support at the scene of any emergency. The program includes both classroom and hospital experience. In addition to performing functions of an EMT-A, under the revised code of Ohio, the paramedic is further certified to perform the following life support or intensive care techniques: cardiac monitoring, defibrilation, intubation, and administration of appropriate drugs and intravenous fluids. These functions are performed in conjunction with a cooperating licensed medical doctor, doctor of osteopathic medicine and surgery, or a physician advisory board.

Accreditation

The EMT-A program has received full accreditation from Trade and Industry Education, the organization responsible for certification of Ohio's EMT-A's (#052480).

The paramedic training program has received full accreditation by the Ohio Department of Education, the organization responsible for accreditation of paramedic training (#5-3-005).

Levels of Training Offered

- Emergency Medical Technician-Ambulance (EMT-A): A 110 hour course of study which covers emergency treatment at the basic EMT level. Includes classroom, hospital, and emergency vehicle training. Qualifies the student to take the State of Ohio EMT-A examination. Ten credit hours. Ohio Accreditation No. 052480. EMTA 110.
- Advanced Emergency Medical Technician-Ambulance [Epinephrine] (AEMT-AE): 98 hours of training in addition to that of the EMT-A. Includes classroom, laboratory, and hospital components. Instruction revolves around intravenous therapy, treatment of life-threatening allergic reactions, and use of adjuncts for airway control and shock treatment. Qualifies the student to sit for the National Registry of EMT's intermediate level examination. Five credit hours. EMTP 101.
- Emergency Medical Technician-Paramedic (EMT-P): Over 500 hours of training which encompasses the National Standard Paramedic Training Curriculum. Includes classroom, laboratory, hospital, and vehicle clinical instruction. Qualifies the student to sit for the National Registry of EMT's paramedic level examination. Twenty-three credit hours. Ohio Accreditation No. 5-3-005. EMTP 101, 102, 103, 104.

Entrance Requirements

- EMT-A:
  Minimum of eighteen years of age
  High school diploma or equivalent
  Possess current driver's license
  Complete physical examination
- AEMT-A:
  All EMT-A requirements
  Certified Ohio EMT-A
  Six month's experience as EMT-A
  EMS letter of recommendation
  No felony criminal record
  Conference with program director
  Successfully complete the National Registry of EMT's basic level exam
- EMT-P:
  All EMT-A and AEMT-A requirements
  General aptitude examination

Enrollment Information

- EMT-A:
  Call the paramedic training program for further information.
- AEMT-A:
  Fall Quarter. Recruitment occurs during summer quarter.
- EMT-Paramedic:
  Offered sequentially, beginning fall quarter and ending spring quarter. Recruitment occurs during summer quarter.

Related Course Offerings

EMTA 101 First Aid and CPR—This course is the American Red Cross, multimedia first aid and CPR course. Two credit hours. Offered fall and winter quarter.
EMTA 102 Cardiopulmonary Resuscitation—The AHA or Red Cross CPR course. One credit hour. Offered fall, winter, and spring quarters.

Military Science

U.S. Army Reserve Officers' Training Corps

The Shawnee State University Reserve Officers' Training Corps program is open to both men and women. The objective of this program is to produce leaders who are capable of serving as officers in the U.S. Army active and reserve forces. It provides a basic military education which, in conjunction with other college disciplines, develops those attributes essential for successful executive performance. Individuals who successfully complete all of the training will be commissioned in the United States Army, the United States Army Reserve, or the National Guard.

Counseling

The University provides a variety of counseling services through the different offices of Student Services. Admission, placement, financial aid, veterans, educational, and vocational counseling are available to students. Counseling sessions are confidential. A list of staff and their building locations follows. Office hours will be posted.

Jim Arnzen ..... Commons Building
Mary Beaumont ..... Commons Building
Tom Charles ..... Business Annex
Fred Chrisman ..... Massie Hall
Dr. Paul Crabtree ..... Massie Hall
Tom Davidson ..... Massie Hall
Toby Eichas ..... Commons Building
Stephen Midkiff ..... Commons Building
Rosemary Poston ..... Commons Building
Eugene Wilson ..... Commons Building

Counseling and Assessment Center

Counseling and assessment for personal, social, marriage, and family concerns are provided for students experiencing problems which interfere with their academic

progress or success. These services are provided on a confidential basis and are available by appointment. The Center is staffed with a Licensed Professional Clinical Counselor and is located in Massie Hall, room 218. The phone number is 354-3205, ext. 251, or 355-2251.

Minority, Handicapped, and Special Services

Adaptive equipment and services required by students with disabilities are extended through the university's Minority, Handicapped, and Special Services Office.

Students of Shawnee State University who are subject to a physiological deficiency which restricts or limits their mobility may apply to the director of Minority, Handicapped, and Special Services for handicapped parking and/or elevator privileges.

Students who find it necessary to have tutoring fees waived should see the director of the department. The office is located on the first floor of the Commons Building.

Career Planning and Placement Center

The primary purpose of career planning is to aid students in developing, evaluating, and effectively initiating and implementing career plans by engaging in self-assessment, obtaining occupational information, and exploring the full range of employment opportunities and/or graduate study.

The primary purpose of the placement office is to assist students in:

a. Clarifying objectives and establishing goals.
b. Exploring the full range of life and work possibilities, including employment and graduate preparation.
c. Preparing for the job search or further study.
d. Presenting oneself effectively as a candidate for employment or further study.
e. Making the transition from education to the world of work.

Placement services are available to graduating students and alumni of Shawnee State University at no cost. The Center is located in Massie Hall, room 218. The phone number is 354-3205, ext. 233, or 355-2233.

Transfer/University Parallel Programs

Because curricula in various colleges and universities differ, students who plan to transfer to another baccalaureate institution should follow the procedures outlined below:

1. Secure a catalog from the institution to which you wish to transfer, and become familiar with its admission requirements and suggested freshman and sophomore courses in your major field of interest.
2. Confer with an admissions officer at the receiving institution for further information about transfer regulations and applicability of credit. If necessary, confer with individuals in the appropriate academic departments at the receiving institution.
3. Consult with the director of transfer placement at Shawnee State about fulfilling requirements mandated by the receiving institution. The Office of Transfer Placement is located on the ground floor of the Business Annex.

Acceptance of credit from Shawnee State is at the discretion of the college or university to which the student will transfer. Students assume responsibility for course selections necessary to satisfy the requirements of the institution to which they intend to transfer.

Learning Center

The Learning Center, located in the Business Annex, is best described as a help center. Students usually seek the assistance of the Center's personnel, programs, and equipment when they need extra help preparing for class. Toward meeting its goal of helping students prepare, the center offers a variety of services to Shawnee State students.

One of the most popular Learning Center programs is the tutoring program. Students needing help understanding course concepts and completing course assignments may request the assistance of a peer tutor, another student who has proven competent in a subject and has volunteered to help other students taking a course in the subject.

The Learning Center provides many types of audio-visual instructional devices for use by individual students. These include slide projectors, videotape recorder/players, audiotape recorder/players, and filmstrip projectors. Also very popular with Shawnee State students are the microcomputers and instructional software available to them in the Center. These are used for programming and word processing.

Many of the university's learning assistance programs have their home in the Learning Center. These include the Developmental Education program (courses numbered below 101), Student Academic Assessment Services, the GED program, and Shawnee BASICS (Basic Adult Skills in a College Setting).

Library

Our Library currently has more than 75,000 books and approximately 550 periodical titles, will seat more than 200 students — and is continuing to grow. In 1990, a new library/media building will open, with 600 study stations, complete media production and distribution facilities, and room for 140,000 volumes. The new Library will include media viewing equipment, microcomputers, and lecture facilities, including one 300-seat hall. In addition, the card catalog will be replaced by a computerized system which will allow access to the collection anywhere on campus.

Housing

Celeron Square offers the Shawnee State student quality living accommodations on campus. It features fully furnished three-level townhomes for students. Each unit is designed to house eight students comfortably. Every townhome has complete kitchen, laundry, dining, and living areas. Call University Housing Company, (614) 353-5405, for more information. In addition, a list of off-campus housing opportunities is available from the housing coordinator at 1-800-344-4SSU.

Athletics

Shawnee State University's philosophy holds that there is more to learning than academics. Besides attending classes, every student has an opportunity to participate in a recreational or athletic area. Athletics at SSU consist of interscholastic, intramural, and individual sports activities.

Intercollegiate Athletics

The objectives of intercollegiate athletics at Shawnee State University are to promote the education and development of student athletes through athletic participation. The Athletic Department shares the commitment to high standards with the University and embraces the concept of the student athlete. Educational development is the central focus of the department.

Athletic policies at Shawnee State University conform to the National Association of Intercollegiate Athletics (NAIA) of which we are a member. Presently, Shawnee State University teams participate on an intercollegiate level in women's volleyball, women's basketball, women's softball, men's basketball, and men's golf. The University plans to expand with additional programs in the near future.

Intramural Athletics

An intramurals program, including a wide variety of athletic and recreational activities, is offered. Students participate in planning and supervising various aspects of the program.

Student Activities

The Office of Student Activities is located in Massie Hall, room 214. Dedicated to the principle that there are many valuable experiences which should be provided for college students outside the academic area, the office encourages students to explore ideas and to implement programs which aid in student maturation. These activities help train students to become more knowledgeable citizens and thus better able to participate in our democratic society.

Student activities are a good way for students to meet new friends, develop new interests and skills, and participate in valuable leadership experiences.

Activities sponsored by the office include the Student Senate, the Special Events Committee, the student newspaper, and a variety of student clubs and organizations.

A clubs and organizations handbook is available in the Office of Student Activities. If you desire information about an existing club or would like to start a new club, check with the director of student activities.

Identification Cards

Identification cards are issued to Shawnee State University students. An I.D. card is the means of identification necessary for using the library and participation in student activities. Students must present evidence of registration certification at the time the I.D. card is received. Validation of the I.D. is required each quarter at registration.

Identification cards are available through the Office of the Registrar.

Bookstore

The Shawnee State University Bookstore is owned and operated by the University for the convenience of students, faculty, and staff. The main purpose of the Bookstore is to provide textbooks and supplies necessary to complete required coursework. In addition, you will find items such as calculators, computer supplies, swimming and racquetball equipment, art and drafting supplies, gift items, and a wide selection of imprinted campus wear.

Student Union

The Student Union is located on the ground floor of the Business Annex and provides recreational activities such as video games, billiards, ping-pong, cards, chess, and other board games. It also houses a large-screen television equipped with MTV. The Student Union sponsors tournaments, provides evening programming (e.g., Monday Night Football), and is the location for "Lost and Found."

Academics at Shawnee State University

General Education Core

As a newly established four-year institution, Shawnee State University has the rare opportunity to create a general education program reflective of the best educational practices and responsive to the growing consensus on general education for the 21st century adult. Recent national reports on undergraduate education in America agree that the general education component of baccalaureate programs is in need of significant reform.

In addressing the options for general education, Shawnee State utilized the following assumptions as criteria for identifying an appropriate approach: knowledge is more interrelated than fragmented; introductions to specialized disciplines are rarely synoptic or reflective; and a community of scholars must be created in order to model the form and substance of an educated person. Discussions with both subject matter consultants and general education consultants resulted in the following approach to meet the core objectives of the national reports and SSU's institutional distinctiveness.

As an indication of its commitment to general education, Shawnee State University's Mission Statement explicitly addresses the function of the core curriculum: "Recognizing the importance of knowledge, values, and cultural enrichment, Shawnee State University is committed to teaching students to think critically, to act ethically, and to communicate effectively. The University will foster scholarly inquiry, integrative learning, and an interdisciplinary approach to knowledge . . ."

The general education program assumes that incoming students are prepared for college-level work; therefore, admission to the core courses is predicated upon some combination of G.P.A. and college preparatory curriculum, ACT score, and competency/placement examinations. Each academic division defines the minimum knowledge/skills required by its core courses.

Throughout the general education core, students are expected to be active participants rather than passive observers. Indeed, student involvement is the key which transforms classroom activities into learning experiences. Involvement in group work, class participation, writing, field experiences, and hands-on skill development enables students to acquire life-long learning and thinking skills.

The following objectives are addressed by courses in the general education core in a manner appropriate to the subject matter.

Communication Skills

Reading

Students leave the core with the ability to read on the college level and committed to reading regularly and over a broad spectrum of topics.

Entry level—to be tested. Minimum reading level is necessary to begin core courses; otherwise remediation is required.

Core course components—Textbooks are utilized and supplemented by readings from other sources.

Writing

Students leave the core with the ability to write clearly, concisely, and creatively in a variety of formats.

Entry level—to be tested. Minimum writing level is necessary to begin core courses; otherwise remediation is required.

Core course components—Students write across the curriculum (research papers, technical reports, journals, creative writings).

Speaking

Students leave the core with the ability to give a formal presentation to a group, participate actively in a group discussion, and debate a position rationally and persuasively.

Entry level—English language competence. Testing and remediation may be in order for some students.

Core course components—In all courses, students are exposed to a variety of speaking situations.

Quantitative

Students leave the core with the ability to measure and calculate, to analyze data, and to evaluate the use of statistics.

Entry level—Students should be competent through high school algebra. If, upon testing, students are found to lack the necessary mathematics skills, remediation is required.

Core course components—Where appropriate, students utilize quantitative skills such as interpreting historical data, graphs, and charts and collecting and analyzing scientific or social information.

Computing

Students leave the core with the skills necessary to function successfully in our computerized society.

Entry level—Keyboarding skills are valuable.

Core course components—Where appropriate, students use computers as part of each course (word processing when writing is required, statistical packages or spreadsheets for dealing with numbers, file management programs for handling information).

Integrative Knowledge and Understandings

Global Parameter—Students leave the core understanding both the dynamic interconnectedness of peoples and nations and the human longing for a sense of community.

Cultural Context—Students leave the core with knowledge of the cultural traditions of North America and the complex historical/cultural/sociological contexts which inform contemporary experience.

Ecological Perspective—Students leave the core understanding the interrelatedness of social, economic, environmental, technological, and political systems.

Ethical Foundation—Students leave the core understanding that all decisions, whether personal, corporate, or financial, have an ethical dimension as well as a value orientation.

Aesthetic Consciousness—Students leave the core with a greater appreciation of how the arts contribute to an enriched quality of life.

The general education goals of Shawnee State are met by three series of integrated and/or interdisciplinary courses and a mathematics course generally taken early in most students' programs plus three other courses taken in the junior and senior years. Each series includes three courses of four credit hours each. One series focuses on communication and thinking; a second on physical, biological, and social science; and the third on culture and intellectual history within an historical frame.

In addition to being integrated within the broad disciplines, each series reinforces elements of the other two series. Explicit relationships with other series are noted in the areas of subject matter, methodology, and identified competencies. The overarching goal of the general education core is to enable the student to acquire the basic abilities to function effectively in the multiple roles of contemporary life.

Communication and Thinking

Three courses are taken in sequence during the freshman year. The major emphasis revolves around the nature of words and symbols and how to order them through logical and critical thought processes. English composition, public speaking, and critical reading and listening skills are acquired throughout the sequence by the development of critical thinking skills. In addition to the attention to informal logic and reasoning, students are introduced to such quantitative "reasonings" as surveys, opinion polls, and other quantitative informative/persuasive tools. Students are expected to communicate their thoughts both in speaking and in writing with logic, clarity, and insightfulness.

Our World

This three-quarter series can be taken in either the freshman or sophomore year. (These courses do not need to be sequential although they will be discussed here as if they were.) As each particular domain of knowledge is explored, the disciplines represented also respond to critical probes of the following questions: What is the nature of its inquiry? Why did it develop as it has? How is it functioning in society today? And where are its limitations? The first course is an integrated course in the physical sciences emphasizing the nature of science and scientific methods, the history of the physical sciences, and the impact of the physical sciences on human society. The second course focuses on the scientific method used in the biological sciences as well as the history of the biological sciences and their impact on human society. The third course introduces the student to the breadth and depth of the influence of the social sciences in contemporary life.

All of the courses in this series address the development and consequences of the industrial and post-industrial ages; students are presented the interrelationships of the sciences, technology, economics, and public policy. Furthermore, each course confronts a range of ecological issues from global atmospheric pollution to individual/personal self-abusiveness.

Civilization and Literature

These three courses are based on an historical framework and integrate the impact of ideas, influence of form, and notations of taste and beauty. One major goal is to help students understand how our own culture has been informed, and to some extent formed, by our antecedents in Western culture. An American culture component pays special attention to the impact of political, social, and economic ideas. The civilization and literature series also instills an appreciation of non-Western influences on our culture, of the multicultural nature of modern society, of the global interdependence which marks the modern world and non-Western cultures which we need to understand.

Each course in this series utilizes an historical frame, but the primary vehicle for the presentation of the material is various literary works. Furthermore, each course also includes the role of the creative and performing arts in the cultures being studied.

Quantitative and Qualitative

In addition to the three series, a general education mathematics course has been developed. Building upon a specified level of mathematical competence, this course includes questions about the nature of mathematical knowledge and the impact of mathematics on modern life. Extending the unit on formal and informal logic included in the communication series, this course focuses on skills in using and interpreting descriptive and inferential statistics.

Ethics in Public and Private Life and Senior Seminar, both general education courses, can be taken only during the junior and senior years. The ethics course, required either late in the junior year or during the senior year, treats professional ethics as well as ethical questions in society and in private lives. The goal is to encourage students to reflect on ethical problems and to develop intellectual skills involved in making difficult value decisions.

The senior seminar comes late in the students' university experience. A central part of the seminar will be a major paper in which students reflect on their own special fields in an interdisciplinary context with historical, ethical, and intellectual perspectives and integrate the various concepts which have been studied. To put this in a slightly different way, the senior seminar provides students with the opportunity to again write, speak, think, analyze, synthesize, and integrate—this time using the education they have acquired over four years. Furthermore, to enhance the possibility of a final interdisciplinary thrust, these seminars contain a mixture of majors so that students have to communicate with persons from other academic fields.

The final two hours are not a standard course. Students are required to participate in community service projects during their junior or senior year. In addition to providing real service to the community, this requirement helps to make clear to students that higher education carries with it an obligation to share the fruits of that education with those of our fellow citizens who are less fortunate.

General Education Core

ENGL 111S	Discourse and Composition	4 credit hours
ENGL 112S	Composition and Research	4 credit hours
ENGL 115S	Composition and Literature	4 credit hours
ENGL 225S or HIST 225S	Civilization and Literature 1	4 credit hours
ENGL 226S or HIST 226S	Civilization and Literature 2	4 credit hours
ENGL 227S or HIST 227S	Civilization and Literature 3	4 credit hours
PSCI 110S	Physical Science Core Course	4 credit hours
SOCI 110S	Foundations of Social Science	4 credit hours
BIOL 110S	Life Sciences Core Course	4 credit hours
MATH 110S	Mathematics in Society	4 credit hours
PHIL 320S	Ethics in Public and Private Life	4 credit hours
* 485S	Community Involvement	2 credit hours
* 490S	Senior Seminar	4 credit hours
Total		50 credit hours

*Prefix varies according to student's academic major: BADM, ETCO, ENGL, SOCI, or NTSC

Programs of Study at Shawnee State

School of Allied Health and Nursing

Associate of Applied Science

- Associate Degree Nursing
- Dental Hygiene
- Medical Laboratory Technology
- Occupational Therapy Assistant
- Physical Therapist Assistant
- Radiologic (X-ray) Technology
- Respiratory Therapy

Certificate

- EMT

School of Business Administration

Bachelor of Science in Business Administration

- Business Administration/General

Associate of Applied Business

- Accounting/Professional
- Accounting/Management
- Business Management/Management
- Business Management/Banking and Finance
- Business Management/Real Estate
- Business Management/Retail Management
- Data Processing
- Secretarial/General
- Secretarial/Executive

School of Engineering Technologies

Bachelor of Science

- Plastics Engineering Technology
- Electrical and Computer Engineering Technology

Associate of Applied Science

- Plastics Engineering Technology
- Electromechanical Engineering Technology
  - Optional Major in Robotics
- Instrumentation and Control Engineering Technology
  - Optional Major in Robotics

Certificate

- Computer Aided Drafting and Design (CADD)

Division of Arts and Humanities

Bachelor of Arts

- English/Humanities—General
- English/Humanities—Elementary Education

Division of Arts and Humanities (cont'd)

Associate of Arts

- Arts/Humanities—General
- Arts/Humanities—Art
- Arts/Humanities—Communications
- Arts/Humanities—Comparative Arts
- Arts/Humanities—English
- Arts/Humanities—Journalism
- Arts/Humanities—Music
- Arts/Humanities—Theater

Division of Mathematics and Science

Bachelor of Science

- Natural Science
- Natural Science/Elementary Education
- Natural Science/Applied Mathematics
- Natural Science/Chemistry
- Natural Science/Environmental Biology
- Natural Science/Life Science
- Natural Science/Physical Science
- Natural Science/Pre-Medicine
- Natural Science/Pre-Veterinary

Associate of Science

- Mathematics/Sciences
- Mathematics/Sciences—Botany
- Mathematics/Sciences—Chemistry
- Mathematics/Sciences—Mathematics
- Mathematics/Sciences—Physics
- Mathematics/Sciences—Zoology
- Mathematics/Sciences—Forestry

Division of Social Science

Bachelor of Arts

- Social Sciences
- Social Sciences/Elementary Education
- Social Sciences/History
- Social Sciences/Pre-Law
- Social Sciences/Psychology
- Social Sciences/Sociology

Associate of Arts

- Social Science
- Social Science/Government
- Social Science/History
- Social Science/Psychology
- Social Science/Sociology
- Social Science/Social Work

Center for Research and Development in Teaching and Learning (CRADTAL)

- Education/General
- Education/Elementary

School of Allied Health and Nursing

Mission Statement

The School of Allied Health and Nursing serves the tri-state area by educating and preparing competent and responsible health-care professionals so that they can deliver the best quality health care possible. The School of Allied Health and Nursing also fosters professionalism, personal growth and development, and self-actualization and is committed to continuing professional development for the health-care practitioners in the tri-state area.

Admission Requirements

	High School or College Algebra (C or above)	High School or College Biology (C or above)	High School or College Chemistry (C or above)	Volunteer or Work Experience in Working with Disabled or Handicapped	ACT Score of 16 in National Science Section	ACT Score of 16 in all Sections and Composite	*Deadline for Receipt of **ALL** Application Materials
Associate Degree Nursing	✔	✔	✔			✔	March 15*
Dental Hygiene	✔	✔	✔		✔		March 15*
Medical Lab	✔	✔	✔		✔		April 1*
Occupational Therapy Assistant	✔	✔		✔			April 1*
Physical Therapist Assistant	✔	✔		✔			April 1*
Radiologic Technology	✔	✔	✔		✔		April 1*
Respiratory Therapy	✔	✔	✔		✔		April 1*

*After application deadline, students who have completed application materials will be accepted on space available basis.

The following requirements apply to all allied health and nursing programs:

- Application for admission to Shawnee State University and non-refundable $20 application fee.
- High school transcript, college transcripts, and GED test scores (along with partial high school transcript).
- Autobiography form.
- Two Confidential Reference Forms (from non-relatives).
- High school average of 2.5 on a 4.0 scale.
- Conference with program director when file is complete and criteria are met.
- Physical examination (form provided) when officially accepted into the program.
- Mathematics and English placement exams.

All forms are available in the Allied Health and Nursing Admission Office. If you have questions regarding admission procedures or file completion, please call the Allied Health and Nursing Admission Office at (614) 355-2225.

Please Note:

It is very important to understand that fulfilling the criteria for admission into an allied health or nursing program **does not** automatically guarantee the applicant acceptance into the program. All applicants are ranked according to the published criteria for admission. Since the number of qualified applicants may exceed the number of vacancies, the program director and admissions committee reserve the right to select only those applicants that exhibit the most promise of academic and professional success.

Some programs of the School of Allied Health and Nursing utilize hospital clinical sites for the completion of their requirements for graduation. These affiliating hospitals have the right to accept or reject a student, which could result in a student's being delayed in a program or unable to complete a program on time. This decision may be made just prior to the clinical internship.

Guidelines for Appealing a Dismissal From an Allied Health or Nursing Program

Each of the allied health and nursing programs has set minimum academic and clinical performance standards which will permit a student to continue in that program. Failure to meet these minimum performance standards will result in dismissal from the allied health or nursing program. Information concerning these performance standards is available in this catalog, the student handbook for individual allied health or nursing programs, or from the office of the program director.

If a student wishes to appeal his/her dismissal from an allied health or nursing program, the following sequence of events shall be followed:

1. Within three working days following a student's notification of dismissal from the allied health or nursing program, the student must request in writing a meeting with the program director to appeal the dismissal decision. The student shall be notified of the results of this appeal within two working days following this meeting.

Students unsatisfied with the decision may request, within three working days, a second appeal hearing as described below.

2. Upon the student's written request for the next level of appeal, the program director shall arrange a joint meeting with the student, the program director (or designee), the dean of the School of Allied Health and Nursing (or designee), and the provost (or designee). The student shall be notified of the results of this appeal hearing within two working days following the meeting.

Criteria to be used in ruling on a student's dismissal appeal include the student's past academic achievement, the student's rationale for current grade status, and the prediction of future performance in the program.

Dismissal from an allied health or nursing program is not the same as dismissal from the University. University dismissal policies are outlined in this catalog under the section titled "Services, Fees, and Facilities."

Associate Degree Nursing

Associate degree nursing students graduating from Shawnee State University are qualified to take the NCLEX-RN examination* for registered nurses and after successfully passing this examination are capable of providing nursing care at a beginning level in hospitals, nursing homes, doctors' offices, clinics, and selected public health agencies.

Accreditation

The Associate Degree Nursing program has full approval by the Ohio Board of Nursing.

Please Note

1. All suggested or equivalent courses listed for the first three quarters must be completed prior to continuing into the second year. Prerequisites for each quarter are identified under course descriptions.
2. For a student to remain in good academic standing in the Associate Degree Nursing program, a grade of "C" (2.0) or better must be achieved in each course included in the curriculum. Failure to do so results in academic dismissal from the program. Students requesting readmission must do so in writing within one quarter of leaving the program in order to obtain the requirements and forms from the nursing department.
3. Only those students who have been officially accepted into the program or received program director approval may take the courses beginning with the ADNR prefix. Students need to complete the prerequisite (BIOL 151) to enroll in the science courses required for Associate Degree Nursing.

Associate Degree Nursing Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ADNR 101	Nursing 1	5	9	8
BIOL 310	Principles of Anatomy	4	3	5
ENGL 111S	Discourse and Composition	4	0	4
	Totals	13	12	17
	SECOND QUARTER			
ADNR 102	Nursing 2	5	9	8
BIOL 320	Principles of Physiology	5	0	5
PSYC 101	Introduction to Psychology	4	0	4
	Totals	14	9	17

* Felony conviction requires permission from Ohio Board of Nursing before taking the examination.

	THIRD QUARTER			
ADNR 103	Nursing 3	4	12	8
PSCI 105	Physical Science	4	3	5
PSYC 151	Human Growth and Development	4	0	4
	Totals	12	15	17
	SUMMER QUARTER (Optional): The following courses may be taken in the summer or during the second year as designated.			
BIOL 350	Microbiology 1 (or fourth quarter)	4	3	5
SOCI 101	Introduction to Sociology (or fifth quarter)	4	0	4
ENGL 112S	Composition and Research (or fifth quarter)	4	0	4
	Totals	12	3	13
	FOURTH/FIFTH QUARTER			
ADNR 201*	Nursing 4 (5 weeks)	6	12	5
ADNR 202*	Nursing 5 (5 weeks)	6	12	5
ADNR 203	Nursing 6	2	0	2
BIOL 350	Microbiology 1	4	3	5
	Totals	12	15	17
	FOURTH/FIFTH QUARTER			
ADNR 204	Nursing 7	6	12	10
SOCI 101	Introduction to Sociology	4	0	4
ENGL 112S	Composition and Research	4	0	4
	Totals	14	12	18
	SIXTH QUARTER			
ADNR 205	Nursing 8	4	15	9
ADNR 211	Nursing 9	3	0	3
**	Approved Elective	4	0	4
	Totals	11	15	16

* Half-quarter courses
** Elective must be 200 level or above and approved by nursing advisor.

Dental Hygiene

Dental hygiene is a vital health service component of dentistry which emphasizes oral health and the prevention of oral diseases.

Most dental hygienists are employed in private dental offices or clinics and work under the supervision of the dentist. The hygienist's main function is performing oral prophylaxis—scaling and polishing of the patient's teeth to remove soft and hard deposits. They also perform other procedures: dental charting and oral examinations, exposing and processing dental radiographs, fluoride treatments, and preliminary impressions for study models. The hygienist also places great emphasis on dental health education, home care, brushing/flossing, and diet/nutritional counseling.

Accreditation

The Dental Hygiene program is accredited by the American Dental Association.

Job Opportunities

Dental hygienists practice in the following areas:

a. Dentists in private practice.

b. School systems—Primarily concerned with the proper care of children's teeth. Inspect students' teeth and report findings to a supervising dentist. May also instruct

students in proper care of teeth, give demonstrations on the proper use of a toothbrush, and present talks on nutrition and its effects on dental health.

c. Hospitals and clinics—Concerned primarily with the special oral health problems of the bedridden and chronically ill.

d. Teaching and research—Hygienists with advanced degrees may be employed in research or may teach in dental hygiene educational programs that help students to prepare for the profession.

Academic Requirements for Dental Hygiene

In order to remain in good academic standing in the Dental Hygiene program a student must:

1. Maintain a grade point average of 2.0 in all coursework needed to meet the requirements for an Associate of Applied Science degree in Dental Hygiene. This applies to all required courses taken before as well as after admission into the Dental Hygiene program.
2. Maintain a grade point average of 2.0 in all dental hygiene courses.
3. Not receive a failing grade in any of the required courses for the Dental Hygiene program.

Students who fail to achieve *any one of the three* requirements for good academic standing will be dismissed from the Dental Hygiene program with the option of reapplying for admission the following year. A student may appeal a dismissal from the Dental Hygiene program by following the guidelines for appeal as detailed in this catalog.

Please Note

1. After the first quarter courses, all subsequent basic and technical courses are closely related and, therefore, must be taken in sequential order.
2. Only those students who have been officially accepted into the program or received program director approval may take the courses beginning with the DTHY prefix.

Dental Hygiene Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
CHEM 121	Introduction to General Chemistry	3	3	4
DTHY 121	Clinical Dental Hygiene 1	2	6	4
BIOL 101	Introduction to Biology	3	0	3
DTHY 111	Oral Anatomy 1	3	0	3
	Totals	11	9	14
	SECOND QUARTER			
DTHY 122	Clinical Dental Hygiene 2	2	6	4
BIOL 162	Human Anatomy and Physiology	4	3	5
DTHY 101	Radiology	2	0	2
DTHY 112	Oral Anatomy 2	2	0	2
DTHY 102	General and Oral Histology/Embryo	3	0	3
	Totals	13	9	16
	THIRD QUARTER			
DTHY 202	Periodontics	3	0	3
DTHY 113	Radiology 2	1	3	2

	THIRD QUARTER (cont'd)			
DTHY 201	General and Oral Pathology	3	0	3
DTHY/HPER 103	Introduction to Human Nutrition	2	0	2
	Totals	10	11	14
	FOURTH QUARTER (Summer)			
DTHY 224	Clinical D.H. 4/Office Emergencies	2	9	5
DTHY 205	Dental Health Education	3	0	3
BIOL 350	Microbiology	4	3	5
ENGL 111S	Discourse and Composition	4	0	4
	Totals	13	12	17
	FIFTH QUARTER			
DTHY 225	Clinical D.H. 5/Preventative Dentistry	1	12	5
DTHY 203	Dental Materials	2	3	3
SOCI 101	Introduction to Sociology	4	0	4
ENGL 112S	Composition and Research	4	0	4
	Totals	11	15	16
	SIXTH QUARTER			
DTHY 204	Pharmacology/Anesthesiology	3	0	3
DTHY 206	Public Health	3	0	3
DTHY 226	Clinical D.H. 6/Jurisprudence & Career Mgnt.	1	12	5
SPCH 103	Public Speaking and Communication	3	0	3
	Totals	10	12	14
	SEVENTH QUARTER			
DTHY 127	Clinical D.H. 7/Special Needs	1	9	5
PSYC 101	Introduction to Psychology	4	0	4
*	Communication/Leadership Elective	3	0	3
	Totals	8	9	12

* Communication/Leadership Elective (at least three credit hours): both AHNR 102 (Medical Terminology) and AHN 101 (Introduction to Health Technologies); any English course above 112S; any speech course above 103; any psychology course above 101; any sociology course above 101; BMNT 202 (Personnel Management); BMNT 242 (Business Communication); EDPT 101 (Introduction to Data Processing); Special Topics in Dental Hygiene

Medical Laboratory Technology

Medical laboratory technology, a medically oriented discipline, occupies an essential and responsible position in laboratory medicine. Physicians rely on the laboratory staff and the results of their analyses to aid them in determining the presence and extent of disease, as well as implications pertaining to the cause of disease. They also provide data needed to evaluate the effectiveness of treatment and patient management. Researchers in the medical sciences also depend on the special skills of medically oriented laboratory workers for analyses and observations which are essential to the progress of their research.

The medical laboratory technician works under the supervision of a pathologist or technologist and is qualified to perform a wide variety of analytical tests on patient specimens in the areas of hematology, chemistry, microbiology, immunology, immunohematology, and urinalysis. Individuals must be accurate and conscientious, with manual dexterity and an interest in science, have an inquiring mind, and a recognition of their responsibility for human lives.

The associate degree Medical Laboratory Technology program is designed to provide basic educational background and the clinical environment in which students can acquire knowledge, skills, and competence to properly perform routine and selected specialized analyses in a clinical laboratory.

The curriculum consists of seven academic quarters of general education, basic science, and clinical laboratory sciences, including an 18-week internship in one of the affiliated hospitals.

Certification

Upon successful completion of this program, the student receives the associate of applied science degree and is eligible to take the American Society of Clinical Pathologists' Board of Registry Examination and/or the National Certification Agency for Medical Laboratory Personnel Examination as a certified medical/clinical laboratory technician.

Accreditation

The MLT-AD program is accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association, in collaboration with the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).

Employment Opportunities

Positions for certified medical laboratory technicians are available in hospital laboratories, commercial laboratories, public health facilities, the armed forces, physicians' offices, clinics, pharmaceutical and industrial firms, research and educational institutions, as well as the biomedical supply and instrument industry (as technical and sales representatives).

Scholarships

A medical laboratory scholarship, covering two-year tuition, is awarded each year to a high school graduate who demonstrates academic excellence and has been accepted into the Medical Laboratory Technology program.

Please Note

1. Eligibility for clinical practicum, as well as continuation in the Medical Laboratory Technology program, requires that students maintain a 2.0 accumulative GPA, a minimum of "C" in the lecture and lab portion of all MLTC courses, and a minimum of "C" on all MLTC lecture examinations. Detailed academic requirements are outlined in the MLTC student handbook.
2. Only those students who have been officially accepted into the program or received program director approval may take the courses beginning with the MLTC prefix.

Medical Laboratory Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH*	Mathematics	4	0	4

* Students may select MATH 105 or 130 depending on the results of their placement tests.

	FIRST QUARTER (cont'd)			
CHEM 121*	Introduction to General Chemistry 1	3	3	4
BIOL 101**	Introduction to Biology	3	0	3
MLTC 111	Medical Technology Orientation	2	0	1
	Totals	17	5	18
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
CHEM 122*	Introduction to General Chemistry 2	3	3	4
BIOL 162**	Human Anatomy and Physiology	4	2	5
MLTC 112	Basic Laboratory Skills	2	6	4
	Totals	13	11	17
	THIRD QUARTER			
CHEM 200	Introduction to Organic Chemistry 1	3	3	4
MLTC 201	Urinalysis	2	3	3
MLTC 212	Clinical Chemistry 1	2	6	4
MLTC 209	Hematology 1	2	6	4
MLTC 210	Hemostasis	1	2	1
	Totals	10	20	16
	FOURTH QUARTER			
BIOL 235	Microbiology	4	3	5
MLTC 202	Immunoserology	2	3	3
MLTC 211	Hematology 2	2	3	3
PSYC/SOCI	Electives	4	0	4
	Totals	12	9	15
	FIFTH QUARTER			
MLTC 207	Clinical Microbiology	3	6	5
MLTC 213	Clinical Chemistry 2	2	6	4
MLTC 203	Blood Banking	2	6	4
MLTC 204	Parasitology	1	2	1
SPCH 103	Public Speaking and Communication	3	0	3
	Totals	10	21	17
	SIXTH QUARTER			
MLTC 215	Laboratory Simulation (first five weeks)	0	9	3
MLTC 216	Medical Technology Seminar (first five weeks)	1	0	1
MLTC 217	Case Studies (first five weeks)	1	0	1
MLTC 220	Clinical Practicum (second five weeks)	0	40	4
PSYC/SOCI	Electives	4	0	4
	Totals	6	49	13
	SEVENTH QUARTER			
MLTC 221	Clinical Practicum 2	0	40	8
MLTC 225	Special Problems in Medical Laboratory	2	0	2
MLTC 226	Technical Electives***	2	0	2
	Totals	4	40	12

* Students who are planning to continue their education toward a baccalaureate degree are advised to register for CHEM 141, 142.

** Students may select the BIOL 151, 290, or 291 series with the approval of the program director.

*** MLTC 226 Technical Electives: Special Topics in Laboratory Instrumentation, Special Topics in Laboratory Management, Special Topics in Quality Control and Computer, Special Topics in Hematology, Special Topics in Clinical Chemistry, Special Topics in Immunology, Special Topics in Immunohematology, Special Topics in Microbiology, Special Topics in Urinalysis, Special Topics in Histology

Recommended electives for students who want to take additional hours: EDPT 101 (Introduction to Data Processing), EDPT 103 (BASIC Language 1), BIOL 340 (Genetics), CHEM 223 (Quantitative Analysis), ENGL 115S (Composition and Literature), ENGL 121 (Technical Writing), MATH 131 (College Algebra 2), MATH 150 (Elementary Statistics)

Occupational Therapy Assistant

Occupational therapy is a vital health care service, that uses "occupation," meaning purposeful activity, as the basis for treatment of people with a wide variety of physical, developmental, and emotional disabilities.

Occupational therapists and occupational therapy assistants help disabled people of all ages acquire or regain the skills they need to live independent, productive, and satisfying lives. They work in hospitals, rehabilitation centers, nursing homes, public and private schools, and home health agencies.

Occupational therapy assistants work under the guidance of occupational therapists. They may choose or construct equipment that helps people to function more independently; they may carry out treatment activities for individuals or groups of patients; and they work closely with families of patients who cre preparing to return home.

To become an occupational therapy assistant, you must complete an educational program. The majority of these are two-year associate degree programs like the one at Shawnee State University. The program includes basic academic subjects, human growth and development, the functioning of the human body, and occupational therapy principles and techniques. The OTA program requires at least two, six-week rotations of supervised practical experience in a variety of health care settings.

After successfully completing the educational program, the graduate is eligible to take the national certification examination for the occupational therapy assistant. Many states, including Ohio, Kentucky, and West Virginia, also require licensing by their state to practice occupational therapy.

Accreditation

The Occupational Therapy Assistant program at Shawnee State is approved by the Accreditation Committee of the American Occupational Therapy Association.

Academic Requirements of OTA Program

For students to remain enrolled in the Occupational Therapy Assistant program, they must:

1. Not receive below a "C-" in any course with the OTAT prefix.
2. Maintain a 2.00 GPA in all courses with the OTAT prefix.
3. Obtain an overall GPA of no less than 2.00 prior to the third quarter (spring) of the first year.
4. Maintain at least a 2.00 GPA during each remaining quarter.
5. Successfully complete (with a "D-" or higher) BIOL 151 and 162 by the end of the third quarter (spring) of the first year.

If any of these criteria are not met, the student is dismissed from the OTA program. Conditions for readmission to the OTA program are specified by the program director at the time of dismissal.

Clinical Requirements of OTA Program

Clinical placements for the OTA program in the Portsmouth area are limited. OTAT 108, 204, and 208 (Fieldwork 1) are clinical courses requiring seven hours, one day per week at the assigned facility. These placements may be up to 70 miles away from SSU. Students are responsible for their own transportation to and from these facilities.

OTAT 220 and 221 (Fieldwork 2) consist of two rotations of six to eight weeks each. Students are required to be at that facility during normal working hours (usually 40 hours per week). The OTA program assigns each student two placements. Students

are responsible for all expenses incurred to complete the Fieldwork 2 requirements of the OTA program. Students who are dissatisfied with the assigned placements are responsible for finding their own placement which must meet the Fieldwork 2 criteria of the OTA program.

Students are required to have successfully completed all OTAT and other courses in the curriculum (as indicated by a minimum 2.00 GPA) prior to participating in OTAT 220 and 221. OTAT 220 and 221 must be completed within 12 months following completion of other OTA courses.

Occupational Therapy Assistant Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER (Fall)			
OTAT 101	Introduction to Occupational Therapy	3	3	4
OTAT 105	Survey of Medical Terminology	2	0	2
BIOL 151	Principles of Biology	3	4	5
PSYC 101	Introduction to Psychology	5	0	4
	Totals	13	7	15
	SECOND QUARTER (Winter)			
OTAT 202	Disease Pathology	4	0	4
BIOL 162	Human Anatomy and Physiology*	4	3	5
PSYC 151	Human Growth and Development	4	0	4
SOCI 101	Introduction to Sociology	4	0	4
	Totals	16	3	17
	THIRD QUARTER (Spring)			
OTAT 102	Therapeutic Media 1	1	6	3
OTAT 108	Practicum 1 (FW1)	1	6	2
OTAT 109	Applied Anatomy and Kinesiology	1	3	2
OTAT 110	Group Dynamics	1	3	2
ENGL 111S	Discourse and Composition	4	0	4
	Mathematics/Science Elective	4	0	4
	Totals	12	18	17
	FOURTH QUARTER (Summer)			
OTAT 204	Practicum 2 (FW1)	2	6	3
OTAT 102	Therapeutic Media 1	1	6	3
OTAT 203	OT in Developmental Disabilities	5	3	6
ENGL 112S	Composition and Research	4	0	4
	Totals	12	15	16
	FIFTH QUARTER (Fall)			
OTAT 208	Practicum 3 (FW1)	2	6	3
OTAT 210	OT in Physical Disabilities	4	6	6
OTAT 205	Therapeutic Media 2	1	6	3
SPCH 103	Public Speaking and Human Communication	3	0	3
ENGL 121	Tech. Writing or ENGL 115S Comp. & Lit.	3	0	3
	Psychology/Sociology Elective	4	0	4
	Totals	17	18	22
	SIXTH QUARTER (Winter)			
OTAT 211	OTAT Seminar	2	0	2
OTAT 212	OT in Mental Health	3	3	4

* BIOL 310 Anatomy may be substituted for BIOL 162 if approval is obtained from the director of the occupational therapy program.

	SIXTH QUARTER (Winter)(cont'd)			
OTAT 211	OTAT Seminar	2	0	2
OTAT 212	OT in Mental Health	3	3	4
OTAT 106	OT in Geriatric Program Planning	3	3	4
OTAT 205	Therapeutic Media 2	1	6	3
EMTA 101	First Aid*	2	0	2
	Totals	11	12	15
	SEVENTH QUARTER (Spring)			
OTAT 220	Clinical Application (FW 2)	0	40	6
OTAT 221	Clinical Application (FW 2)	0	40	6

* Students must have current first aid and CPR certificates prior to starting Clinical Application (OTAT 220 and 221) spring quarter. This may be obtained either through EMTA 101 or at another agency.

Physical Therapist Assistant

Physical therapist assistants are skilled technical health workers. They work under the supervision of physical therapists to help rehabilitate disabled persons so that they may again lead useful and productive lives. They may use heat, cold, electricity, and exercise for the treatment of patients. The program is designed over a seven-quarter sequence; four quarters include clinical practicums.

Accreditations

The Physical Therapist Assistant program at Shawnee State University is accredited by the Commission on Accreditation in Education of the American Physical Therapy Association.

Physical Therapist Assistant Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER (Fall)			
BIOL 151	Prin. of Biology or BIOL 101 Intro. to Biology	3	0-4	3-5
MATH 101	Basic Algebra	5	0	4
ENGL 111S	Discourse and Composition	4	0	4
PTAT 101	Medical Terminology or AHN 102	2	0	2
PTAT 111	Principles of PTA	3	0	3
	Totals	17	0-4	16-18
	SECOND QUARTER			
BIOL 162	Anatomy and Physiology	4	2	5
PSCI 105	Physical Science	4	3	5
PTAT 112	PTA Procedures 1	3	6	5
	Totals	11	11	15
	THIRD QUARTER			
BIOL 311	Principles of Kinesiology	3-4	0-2	3-5
PSYC 101	Introduction to Psychology	4	0	4
PTAT 113	PTA Procedures 2	3	6	5
ENGL 112S	Composition and Research	4	0	4
	Totals	13-5	7-9	16-18
	FOURTH QUARTER			
SOCI 101	Introduction to Sociology	5	0	4
SPCH 103	Public Speaking and Human Communication	3	0	3
PTAT 114	Anatomy and Kinesiology	3	6	5
PTAT 115	PT in Physical Dysfunction	3	0	3
PTAT 216	Clinical Practicum Seminar	1	4	2
	Totals	15	10	17

	FIFTH QUARTER			
PTAT212	Clinical Practicum 1	2	12	4
PTAT 202	PTA Procedures 3	3	6	5
PTAT 231	Rehabilitation Procedures 1	3	3	4
PSYC 151	Human Growth and Development	4	0	4
	Totals	12	21	17
	SIXTH QUARTER			
PTAT 235	PT Trends and Administrative Procedures	2	0	2
PTAT 232	Rehabilitation Procedures 1	3	3	4
PTAT 213	Clinical Practicum 2	2	12	4
	Social Science Elective	4	0	4
HPER227	First Aid or EMTA 101*	2-4	0	2-4
	Totals	13-15	15	16-18
	SEVENTH QUARTER (Spring)			
PTAT 214	Clinical Practicum 3	0	38	6
PTAT 255	PTAT Seminar	2	0	2
	Totals	2	38	8

* Students must have a current first aid card prior to enrolling in PTAT 214. HPER 227 or EMTA 101 is not required if the student has a current first aid card. This can be obtained either through HPER 227, EMTA 101, or at another agency.

Radiologic Technology

The radiologic technology curriculum prepares the graduate as a radiographer. The radiographer works under the supervision of a medical radiologist or physician in hospital radiology departments, clinics, commercial x-ray laboratories, or doctors' offices. The responsibility of the radiographer is to produce a radiographic (x-ray) image of the highest diagnostic quality of any designated area of the human body. It is from this image that the radiologist makes his or her interpretations.

Curriculum for this program covers eight academic quarters. The first four academic quarters are designed to provide the students with mathematics, basic science, general education courses, supporting technical courses, clinical education, and specialized courses in radiography. The second year of the program consists of additional clinical education scheduled in the affiliated hospitals along with advanced radiologic technology courses.

Experience in the radiology departments of the affiliated hospitals provides opportunity for the practical application of knowledge learned in the classroom. This experience in the hospital is a vital part of the program, since it enables the student to assist in the handling of sick and injured patients as they undergo a wide variety of radiographic examinations.

Upon satisfactory completion of the course requirements, the graduate receives the associate in applied science degree and is eligible to apply for examination by the American Registry of Radiologic Technologists.

Accreditation

The Radiologic Technology program at Shawnee State University is fully accredited by the Committee on Allied Health Education and Accreditation of the American Medical Association, in collaboration with the Joint Review Committee on Education in Radiologic Technology.

Academic Requirements

For a student to remain in good standing in the Radiologic Technology program, the following three conditions *must* be met:

1. The student must not receive a grade of "F" in any of the required courses listed in the eight-quarter sequence.
2. The student must not receive a grade below a "C-" in any of the courses with the RDLT prefix.
3. The student must earn an overall grade point average of 2.000 by the end of the third quarter and maintain it throughout the remainder of the program.

If *any one* of these three conditions is not met, the student is academically dismissed from the Radiologic Technology program. Students may apply for readmission to the Radiologic Technology program the following year after they have successfully completed the required remedial work as detailed by the program director at the time of dismissal.

Please Note

1. Only those students that have been officially accepted into the program or received program director approval may take the courses beginning with the RDLT prefix.
2. After the first quarter, all subsequent technical courses are closely related and, therefore, must be taken in sequential order. The basic courses (psychology, speech, etc.) may be taken at the student's convenience assuming all prerequisites are satisfied.

Radiologic Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
RDLT 101	Radiologic Technology 1	2	6	4
MATH 130	College Algebra 1	4	0	4
BIOL 101	Introduction to Biology	3	0	3
ENGL 111S	Discourse and Composition	4	0	4
	Totals	13	6	15
	SECOND QUARTER			
RDLT 102	Radiologic Technology 2	2	10	4
RDLT 200	Basic Patient Care	3	2	3
PSCI 105*	Physical Science	4	3	5
BIOL 310	Human Anatomy	4	3	5
	Totals	13	18	17
	THIRD QUARTER			
EDPT 101	Introduction to Data Processing	2	3	3
ENGL 112S	Composition and Research	4	0	4
RDLT 103	Radiologic Technology 3	3	2	3
RDLT 201	Radiographic Exposure	3	2	4
RDLT 211	Clinical Experience 1	0	16	2
	Totals	12	23	16
	FOURTH QUARTER			
RDLT 104	Radiologic Technology 4	3	2	3
RDLT 212	Clinical Experience 2	0	24	3
	Totals	3	26	6

* Students who are planning to continue their education toward a baccalaureate degree are advised to take CHEM 121.

	FIFTH QUARTER			
RDLT 111	Radiologic Physics	3	2	4
RDLT 105	Radiologic Technology 5	3	0	3
RDLT 213	Clinical Experience 3	0	24	3
SPCH 103	Public Speaking and Human Communication	3	0	3
	Totals	9	26	13
	SIXTH QUARTER			
RDLT 106	Radiologic Technology 6	3	0	3
RDLT 112	Radiobiology and Radiation Protection	3	0	3
RDLT 214	Clinical Experience 4	0	24	3
PSYC 101	Introduction to Psychology	4	0	4
	Totals	10	24	13
	SEVENTH QUARTER			
RDLT 107	Radiologic Technology 7	3	0	3
RDLT 113	Radiographic Processing	2	0	2
RDLT 215	Clinical Experience 5	0	24	3
SOCI 101	Introduction to Sociology	5	0	4
*	Communication/Leadership Elective	3-4	0	3-4
	Totals	13-14	24	15-16
	EIGHTH QUARTER			
RDLT 108	Radiologic Technology 8	2	0	2
RDLT 216	Clinical Experience 6	0	32	4
	Totals	2	32	6

* Communication/Leadership Electives: AHNR 102 Medical Terminology, any English course 115S or higher, PSYC 400 Abnormal Psychology, PSYC 375 Educational Psychology, PSYC 273 Human Adjustment, PSYC 151 Human Growth and Development, BMNT 101 Introduction to Business, BMNT 201 Management Concepts, BMNT 202 Personnel Management, BMNT 241 Labor Relations, BMNT 242 Business Communications

Respiratory Therapy

Respiratory therapy is an allied health specialty, whose practitioners are employed under medical direction to provide treatment, management, diagnostic evaluation, and care to patients with deficiencies or abnormalities associated with the process of breathing.

Respiratory therapists work side-by-side with physicians, nurses, and other health care team members to treat patients ranging in age from premature infants to the elderly. Their duties vary from the administration of oxygen, humidity, and aerosols and the drainage of lung secretions, to the use of technologically sophisticated monitoring devices and treatment techniques in order to assure the survival of patients with life threatening conditions such as head or chest trauma.

Some practitioners choose to spend the majority of their time working in diagnostic laboratories where they assist in the evaluation of the type and extent of a patient's pulmonary dysfunction and evaluate the effectiveness of the patient's current therapy. Other practitioners may choose to work in specialized areas of respiratory care, including education, management, home care, sales, research, and specialized areas of diagnostic or patient care such as cardiovascular diagnostics or care of infants and children.

Certification

The graduate of the Respiratory Therapy program is eligible to sit for the examinations of the National Board for Respiratory Care. Successful completion of the "entry-level" examination of the NBRC results in the student being awarded the CRTT (Certified Respiratory Therapy Technician) credential. After successful completion of the

"entry-level" examination, graduates of this program are eligible to take the "advanced practitioner" examination of the NBRC. Successful completion of that examination results in the student being awarded the RRT (Registered Respiratory Therapist) credential by the NBRC.

Accreditation

In 1980 the Ohio Board of Regents approved the creation of this program of study leading to the associate of applied science degree at Shawnee State University. The Respiratory Therapy program at SSU is fully accredited by the Joint Review Committee for Respiratory Therapy Education and the Committee for Allied Health Education and Accreditation of the American Medical Association.

Employment Opportunities

Because of the rapid growth of the profession since its inception in the late 1940's, many medical institutions have found that their need for trained respiratory therapy practitioners has exceeded supply. In addition, many clinics, nursing homes, and home care programs are realizing the potential benefits of having a trained respiratory care practitioner on staff. These needs, coupled with the ever-increasing number of cardiovascular disorders being diagnosed, should continue to assure that individuals who enter this profession will enjoy good career opportunities.

Academic Requirements

For a student to remain in good standing in the Respiratory Therapy program, the following three conditions *must* be met:

1. The student must *not* receive a grade of "F" in any of the required courses listed in the curriculum.
2. The student must *not* receive a grade below a "C–" in any course with the RPTT prefix.
3. The student must earn an overall grade point average of 2.00 by the end of the third quarter and maintain it throughout the remainder of the program.

Failure to meet any of the three stated conditions results in dismissal of the student from the Respiratory Therapy program. Students may apply for readmission to the Respiratory Therapy program the following year after they have successfully completed the required remedial work as detailed by the program director at the time of dismissal.

Please Note

1. Only those students who have been officially accepted into the Respiratory Therapy program or have received program director approval may take courses beginning with the RPTT prefix.
2. After the first quarter, all subsequent technical courses are closely related and, therefore, must be taken in sequential order.

Respiratory Therapy Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
BIOL 101	Introduction to Biology	3	0	3
SPCH 103	Public Speaking and Human Communication	3	0	3
RPTT 100	Medical Terminology	2	0	2
RPTT 101	Basic Patient Care	2	3	3
RPTT 102	Cardiopulmonary/Renal Anat. and Phys.	5	0	5
	Totals	15	3	16

	SECOND QUARTER			
CHEM 121	Introduction to General Chemistry	3	3	4
ENGL 111S	Discourse and Composition	4	0	4
MATH 130	College Algebra 1	4	0	4
RPTT 110	Medical Gas Therapy	3	3	4
RPTT 115	Clinical Application 1	0	8	1
	Totals	14	14	17
	THIRD QUARTER			
BIOL 162	Human Anatomy and Physiology	4	3	5
ENGL 112S	Composition and Research	4	0	4
RPTT 120	Perioperative Care	3	3	4
RPTT 121	Care of the Artificial Airway	1	3	2
RPTT 125	Clinical Application 2	0	8	1
	Totals	12	17	16
	FOURTH QUARTER			
BIOL 350	Microbiology	4	3	5
RPTT 130	Pediatric and Neonatal Respiratory Care	4	0	4
RPTT 131	Pulmonary Function Testing	2	0	2
RPTT 132	Arterial Blood Gases/Acid-Base	1	0	1
RPTT 133	Laboratory Procedures	0	3	1
RPTT 135	Clinical Application 3	0	16	2
	Totals	11	22	15
	FIFTH QUARTER			
RPTT 200	Pharmacology	3	0	3
RPTT 201	Continuous Mechanical Ventilation	4	6	6
RPTT 202	Pathophysiology	3	0	3
RPTT 205	Clinical Application 4	0	16	2
*	General Studies Elective	4	0	4
	Totals	14	22	18
	SIXTH QUARTER			
RPTT 210	Critical Care	4	0	4
RPTT 211	Advanced Cardiopulmonary Assessment	1	0	1
RPTT 212	Pulmonary Rehabilitation and Home Care	2	0	2
RPTT 213	Department Management	1	0	1
RPTT 215	Clinical Application 5	0	24	3
*	General Studies Elective	4	0	4
	Totals	10	24	13
	SEVENTH QUARTER			
RPTT 220	Seminar	4	0	4
RPTT 225	Clinical Application 6	0	40	8
	Totals	4	40	12

* General Studies Electives should be selected from the following approved list: ANTH 101 Introduction to Anthropology, any English course not currently required greater than ENGL 115S, PHIL 110 Elements of Symbolic Logic, PSYC 101 Introduction to Psychology, SOCI 101 Introduction to Sociology. Other communication or social science courses may be acceptable, with the approval of the program director.

School of Business Administration

Mission Statement

The mission (purpose) of the School of Business Administration is to prepare individuals for productive and satisfying professional careers in business. The School of Business Administration seeks to develop in students, a continuing intellectual curiosity, an awareness of individual and cultural diversity, and a high degree of professional competence. To this end, the School of Business Administration encourages an integrated general education in the arts and sciences, provides a body of knowledge common to all areas of business, and provides a systematic body of specialized knowledge and skills applicable to specific business disciplines.

To meet the diverse needs of students and businesses, the School of Business Administration offers programs at the associate level, stressing applied entry-level skills, and at the baccalaureate level, stressing broader theoretical concepts and leadership skills applicable to more complex organizational problems.

Bachelor of Science in Business Administration With a Major in General Business

The four-year program in general business is designed to provide students with a broad understanding of business. The program focuses on the dynamics of business in all aspects. A broad-based general education precedes an extensive education in general business. A successful graduate has the necessary tools to enter into a career in business as well as to pursue graduate studies.

The General Business program has both a core of courses and business and non-business electives. Students may choose, by consultation with their advisors, at least one upper division course in four of the five prescribed elective areas: accounting, automated information systems, economics, finance, and management. Students have some flexibility to design a program to meet their career goals.

Graduation Requirements

In summary form, the graduation requirements are as follows.

a. General Education Core Course Requirements	50
b. Business Core Course Requirements	68
c. General Business Electives (Upper division credit requirements in four areas)	16
d. Other Business Electives (Minimum credit requirements)	20
e. Non-Business Credit Requirements	24
f. Business or Non-Business Credit Requirements	8
TOTAL	186

Students must take a minimum of 74 hours of non-business courses (a and e above). Two hours of non-business courses may be in physical education. The following is a suggested outline of curriculum, by quarters, for the B.S. degree in Business Administration.

Business Administration Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
SOCI 110S	Foundations of Social Science	4	0	4
MATH 110S	Mathematics in Society	4	0	4
ECON 101	Principles of Economics 1	4	0	4
	Totals	16	0	16
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
BIOL 110S	Life Sciences Core Course	4	lab	4
AISM 101	Intro. to Automated Information Systems	4	lab	4
ECON 102	Principles of Economics 2	4	0	4
	Totals	16	labs	16
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
PSCI 110S	Physical Science Core Course	4	lab	4
AISM 103	Computer Applications	4	lab	4
	Elective	4	0	4
	Totals	16	labs	16
	FOURTH QUARTER			
ENGL 225S	Civilization and Literature 1	4	0	4
MATH 201	Calculus	4	0	4
	Electives[1]	8	0	8
	Totals	16	0	16
	FIFTH QUARTER			
ENGL 226S	Civilization and Literature 2	4	0	4
ACCT 201	Financial Accounting Principles	4	0	4
MATH 250	Statistics 1	4	0	4
	Elective[1]	4	0	4
	Totals	16	0	16
	SIXTH QUARTER			
ENGL 227S	Civilization and Literature 3	4	0	4
ACCT 210	Managerial Accounting	4	0	4
BUSL 270	The Legal Environment of Business	4	0	4
	Elective[1]	4	0	4
	Totals	16	0	16
	SEVENTH QUARTER			
PHIL 320S	Ethics in Public and Private Life	4	0	4
MGNT 310	Management Principles	4	0	4
MGNT 330	Organizational Communication	4	0	4
	Upper Division Economics Elective[2]	4	0	4
	Totals	16	0	16
	EIGHTH QUARTER			
FINA 345	Managerial Finance	4	0	4
MRKT 310	Marketing Principles	4	0	4
	Business Electives	8	0	8
	Totals	16	0	16

[1]Courses are suggested in government, psychology, and sociology.
[2]Students must choose either ECON 301, 325, or 411.

	NINTH QUARTER			
MGNT 355	Quantitative Methods in Business	4	0	4
	Upper Division Business Elective[1]	4	0	4
	Business Elective[2]	4	0	4
	Business or Non-Business Elective[3]	4	0	4
	Totals	16	0	16
	TENTH QUARTER			
BADM 485S	Community Involvement	2	0	2
MGNT 385	Production/Operations Management	4	0	4
	Upper Division Business Elective[2]	4	0	4
	Business or Non-Business Elective[3]	4	0	4
	Totals	14	0	14
	ELEVENTH QUARTER			
	Upper Division Business Elective[1]	4	0	4
	Business Electives[2]	8	0	8
	Totals	12	0	12
	TWELFTH QUARTER			
BADM 490S	Senior Seminar	4	0	4
MGNT 485	Business Policy and Strategy	4	0	4
	Upper Division Business Elective[1]	4	0	4
	Elective[4]	4	0	4
	Totals	16	0	16
	TOTAL HOURS			186

[1]Students must choose one upper division course from any four of the following for 16 credit hours: accounting, management, economics, automated information systems, and finance.
[2]Other business electives must be at least 20 hours.
[3]Two hours of non-business electives may be in physical education. Student must take additional 6-8 hours of non-business courses.
[4]Courses are suggested in government, psychology, and sociology.

IMPORTANT: Any student having earned credit for an upper-level course cannot subsequently apply credit for a lower-level sequence course toward graduation. Example: A student who earned credit for MGNT 310 could not subsequently take BMNT 101, 201, or 202 and apply the lower-level course credits toward graduation. This notice is applicable, but not limited, to BAFT 204, BMNT 101, BMNT 201, BMNT 202, and FINA 201.

Associate Degree in Applied Business

Our associate degree programs have two main goals: to prepare students for the job market and to give students the necessary foundation to advance, if they choose, to the bachelor of science degree program.

There are four main areas of study:

- Accounting Technology
- Management Technology
- Data Processing and Computer Technology
- Secretarial Technology

Accounting Technology

The field of accounting offers many career opportunities in both the private and public sector.

Management (Industrial) Accounting

The management accountant is trained to determine the financial consequences of management decisions. The reports and analyses of the management accountant are essential ingredients of most management decisions about finance, investments, and pricing policies. More than anyone else on the management team, the management accountant participates in virtually every phase of the business problem solving and decision making process. Because of the accountant's role in this process, he or she has many times advanced to a top management position within the company.

Governmental Accounting

All organizations need accounting information. Government and other non-profit organizations are no exception. The federal government hires accountants in most of its agencies. Three prominent agencies are the Internal Revenue Service, the General Accounting Office, and the Defense Contract Audit Agency. State and local government units hire accountants in their tax divisions and in general accounting functions. Schools and hospitals are major users of accounting services. Many opportunities exist for those interested in governmental accounting.

Public Accounting and the CPA

For the protection of the public, the CPA is expected to possess certain professional qualifications. The Uniform CPA Examination is designed to measure the technical competency, the exercise of good judgement, and the understanding of professional responsibility of each man or woman who chooses this career in accounting. The public accountant is a true independent professional person with the stature of a doctor or lawyer. In public accounting many opportunities exist for professional growth, whether you practice as a sole practitioner or as part of a larger firm.

Accounting Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ACCT 101	Accounting 1	3	4	4
ENGL 111S	Discourse and Composition	4	0	4
EXST 120	Business Machines 1 or approved elective *(see advisor)*	0	2	1
MATH*	Mathematics *(see advisor)*	4	0	4
BMNT 101	Introduction to Business	4	0	3
	Totals	15	6	16
	SECOND QUARTER			
ACCT 102	Accounting 2	3	4	4
ENGL 112S	Composition and Research	4	0	4
ECON 101	Principles of Economics 1	4	0	4
MATH*	Mathematics *(see advisor)*	4	0	4
BMNT 201	Management Concepts	4	0	4
	Totals	19	4	20

* Students with adequate high school mathematics, as determined by placement testing, should elect MATH 110S or MATH 130 if intending to pursue advanced degrees.

THIRD QUARTER

ACCT 103	Accounting 3	3	4	4
ACCT 104	Tax Accounting	3	3	4
ENGL 115S	Composition and Literature	4	0	4
ECON 102	Principles of Economics 2	4	0	4
	Totals	14	7	16

SECOND YEAR CURRICULUM: Accounting/Professional Emphasis

FOURTH QUARTER

ACCT 211	Intermediate Accounting 1	3	4	4
ACCT 221	Cost Accounting 1	3	4	4
FINA 201	Principles of Finance	3	0	3
BUSL 250	Business Law 1	4	0	4
	Social Science Elective	4	0	4
	Totals	17	8	19

FIFTH QUARTER

ACCT 212	Intermediate Accounting 2	3	4	4
ACCT 222	Cost Accounting 2	3	4	4
BMNT 242	Business Communications	4	0	4
EDPT 101	Introduction to Data Processing or	2	3	3
AISM 101	Introduction to Information Systems	4	0	4
SPCH 103	Public Speaking and Human Communication	3	0	3
	Totals	15-17	8-11	18-19

SIXTH QUARTER

ACCT 213	Intermediate Accounting 3	3	4	4
ACCT	Accounting Elective	3	3	3
	Social Science Elective	4	0	4
BMNT 202	Personnel Management	4	0	4
	EDPT or AISM Elective	4	0	4
	Totals	18	7	19

SECOND YEAR CURRICULUM: Accounting/Management Emphasis

FOURTH QUARTER

ACCT 221	Cost Accounting 1	3	4	4
FINA 201	Principles of Finance	3	0	3
BUSL 250	Business Law 1	4	0	4
	Social Science Elective	4	0	4
ACCT 211	Intermediate Accounting 1	3	4	4
	Totals	17	8	19

FIFTH QUARTER

ACCT 222	Cost Accounting 2	3	4	4
BUSL 260	Business Law 2	4	0	4
EDPT 101	Introduction to Data Processing	2	3	3
SPCH 103	Public Speaking and Human Communication	3	0	3
	Business Elective	4	0	4
	Totals	16	7	18

SIXTH QUARTER

ACCT 110	Payroll Records/Accounting	2	3	3
	EDPT or AISM Elective	3	4	4
	Social Science Elective	4	0	4
BMNT 202	Personnel Management	4	0	4
	Business Elective	3	0	3-4
	Totals	16	7	18-19

Business Management Technology with Majors in Retail Management, Banking/Finance, Business Management, and Real Estate

The Associate Degree in Business Management

The Associate Degree in Business Management is designed to provide the student with the knowledge, understanding, and skills required for entry-level management positions. The successful student is provided access to a career path leading to a variety of challenging and rewarding middle-management positions in business, service organizations, industry, and financial institutions.

Flexibility is a key feature of the business management curriculum. Students choose 18-24 credit hours within one of the four specialized areas shown on the following pages as their area of emphasis. The remaining 8-14 technical electives are chosen from the list of approved technical electives. This provides the student the opportunity to design a program compatible with individualized interest and career goals.

Retail Management

Retailing involves all those activities related to the sale of consumer goods to consumers. The retailing segment of our economy provides jobs for about 17% of all employed people. These jobs are in small stores and giant corporate chains in nearly every part of the U.S.

Successful management trainees in retailing can move into a number of challenging jobs. Department manager, assistant buyer or buyer, and sales manager are but a few of the possibilities. Students choosing retailing as an emphasis in the Business Management program should take the following courses as part of the required technical electives.

RMMT 103 Introduction to Retailing
RMMT 104 Salesmanship
RMMT 223 Retail Buying
RMMT 225 Marketing Case Studies
RMMT 233 Sales Promotion
RMMT 235 Advertising
BAFT 105 Installment Credit

Banking/Finance

The specialization in banking and finance is designed to provide individuals interested in a career in banking, savings and loans, credit unions, or credit departments of retail companies with the basic knowledge and skills required to gain employment and to advance to managerial level occupations. There are a large number of lower and middle level management positions in most financial institutions which a student would be qualified to fill with this specialty and the requisite experience. Some of the managerial positions available in banks are loan officer, trust officer, collections officer, branch manager, and cashier.

The banking and finance curriculum parallels that required by the American Institute of Banking.

Students choosing banking and finance should plan to take the following courses as a part of the technical electives required in the Business Management program.

BAFT 101 Banking and Finance
BAFT 102 Introduction to Commercial Lending
BAFT 105 Installment Credit
BAFT 106 Principles of Bank Operations
BAFT 202 Home Mortgage Lending
BAFT 204 Introduction to Investments

Business Management

The business management option is a general business curriculum appropriate for three types of students.

First, the option provides a general business background for those who want to work in business but haven't decided on a specific career area. With some experience and, perhaps, additional specialized courses, this option can lead into management trainee programs in most types of business and industry.

Second, this option is appropriate for those with a technical degree or background who want to move into managerial positions.

Third, the curriculum provides an excellent business background for individuals who want to operate their own small businesses.

If you fit one of these categories, you should choose from the following courses for your required technical electives.

BAFT 105	Installment Credit
BMNT 241	Labor Relations
BMNT 242	Business Communication
BMNT 202	Personnel Management
FINA 201	Principles of Finance
RMMT 225	Marketing Case Studies
RMMT 235	Advertising
SBMT 225	Organization and Operation of Small Business
SBMT 236	Franchising
SBMT 290	Seminar in Small Business Problems

Real Estate

If you have an interest in becoming a real estate agent, real estate broker, appraiser, or manager of a real estate firm, the real estate specialization of the Business Management program is for you.

Successful completion of specific courses in the curriculum meets the requirements of Ohio law and qualifies the student to sit for the Real Estate Salesman's and Real Estate Broker's examinations. The curriculum also prepares the student for the Graduate Real Estate Institute examination.

Students whose emphasis is real estate should choose from the following courses for the required technical electives.

REST 210	Real Estate Principles and Practices
REST 212	Real Estate Law
REST 213	Real Estate Finance
REST 214	Real Estate Appraisal
REST 215	Real Estate Brokerage
REST 218	Special Topics in Real Estate

Real Estate Sales Program: Persons wishing to take the Ohio examination for real estate sales must first successfully complete Real Estate Principles and Practices and Real Estate Law. Both of these courses are offered at Shawnee State.

Graduate Realtors' Institute Designation: The purpose of the Graduate Realtors' Institute is:

a. To fill the need for a more comprehensive and better instruction program in all facets of the real estate profession through courses of instruction in institutions of higher learning.

b. To provide licensed real estate brokers and salesmen an opportunity for enhancement of professional competence and financial success through participation in the Graduate Realtors' Institute (GRI).

c. To recognize those who have successfully qualified for the GRI designation by awarding them a certificate and pin which identifies them as a GRI member.

Enrollment: Enrollment in the Real Estate program is not limited to candidates for the GRI certificate.

Individuals seeking information about specific facets of the real estate industry may enroll in any course; however, program curriculum is oriented to the educational needs of the professional.

GRI Certificate Program: The GRI designation is available to those who hold membership in the Ohio Association of Real Estate Boards and have completed the program requirements. A certificate in recognition of achievement and a GRI lapel pin are awarded to those individuals successfully completing the following: program requirements, application to the Ohio Association of Real Estate Boards, payment of required fees, and a comprehensive examination.

Business Management Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH 101	Basic Algebra	4	0	4
ACCT 101	Accounting 1	3	4	4
BMNT 101	Introduction to Business	4	0	4
*	Technical Elective	4	0	4
	Totals	19	4	20
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
ACCT 102	Accounting 2	3	4	4
BMNT 102	Marketing Concepts	4	0	4
MATH 125	Business Mathematics	4	0	4
	Totals	15	4	16
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
EDPT 101	Introduction to Data Processing	2	3	3
*	Technical Electives	12	0	12
	Totals	18	3	19
	FOURTH QUARTER			
PSYC 101	Introduction to Psychology	4	0	4
BUSL 250	Business Law 1	4	0	4
ECON 101	Principles of Economics 1	4	0	4
*	Technical Elective	4	0	4
	Totals	16	0	16
	FIFTH QUARTER			
SOCI 101	Introduction to Sociology	4	0	4
BUSL 260	Business Law 2	4	0	4
BMNT 201	Management Concepts	4	0	4
ECON 102	Principles of Economics 2	4	0	4
	Totals	16	0	16

* Approved Technical Electives: EXST 101 Typing 1, EXST 102 Typing 2, EXST 130 Records Management, EXST 221 Word Processing 1, ACCT 103 Accounting 3, ACCT 104 Tax Accounting, ACCT 110 Payroll Accounting, ACCT 221 Cost Accounting 1, EDPT 101 Introduction to Data Processing, EDPT 103 BASIC Language, EDPT 104 BASIC Language 2, EDPT 105 COBOL, EDPT 208 RPG, FINA 201 Principles of Finance, or any BMNT, RMMT, BAFT, REST, or SBMT course for which the student has the required prerequisite.

	SIXTH QUARTER			
SPCH 103	Public Speaking and Human Communication	3	0	3
**	Social Science Elective	4	0	4
*	Technical Electives	12	0	12
	Totals	19	0	19

* Approved Technical Electives: EXST 101 Typing 1, EXST 102 Typing 2, EXST 130 Records Management, EXST 221 Word Processing 1, ACCT 103 Accounting 3, ACCT 104 Tax Accounting, ACCT 110 Payroll Accounting, ACCT 221 Cost Accounting 1, EDPT 101 Introduction to Data Processing, EDPT 103 BASIC Language, EDPT 104 BASIC Language 2, EDPT 105 COBOL, EDPT 208 RPG, FINA 201 Principles of Finance, or any BMNT, RMMT, BAFT, REST, or SBMT course for which the student has the required prerequisite.

** Approved Social Science Electives: SOCI 205 Current Social Problems, SOCI 210 Women in Society, SOCI 234 Sociology of Aging, PSYC 273 Human Adjustment, PSYC 151 Human Growth and Development, SOCI 224 Urban Sociology.

Data Processing and Computer Technology

The Data Processing and Computer Technology associate degree program at Shawnee State University is designed to meet the manpower demand of industries, government, and educational institutions.

In addition to theoretical fundamentals, practical aspects of data processing are emphasized. Hands-on opportunity is provided and encouraged. Graduates of this program are fully prepared to enter employment as computer programmers or operators in computer installations and application departments. Graduates of this technology receive an associate degree in applied business.

Job Opportunities

Programmer: Works closely with systems analysts to define problems, analyze the input data and output report requirements, and prepare a program of instructions which the computer can follow to solve the problem.

Systems Analyst: Develops ordered methods for data collection, processing, and reporting.

Data Processing Manager: Plans, coordinates, and directs all data processing activities for organizations; supervises computer center installations.

Other positions are available to the graduate technician after several years of experience.

Data Processing and Computer Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
ACCT 101	Accounting 1	3	4	4
MATH*	Mathematics Sequence	4	0	4
EDPT 101	Introduction to Data Processing	2	3	3
EXST 101	Typing 1	3	2	3
	Totals	16	9	18
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
ACCT 102	Accounting 2	3	4	4
MATH*	Mathematics Sequence	4	0	4

* Mathematics Sequence: Basic Algebra, Business Mathematics, or Plane Geometry and Algebra, College Algebra 1, College Algebra 2, Trigonometry and Analytic Geometry, or Calculus 1. Advisor determines mathematics sequence based on placement testing. With advisor approval, students may take any mathematics sequence from the above list as long as they have 8 credit hours.

	SECOND QUARTER (cont'd)			
EDPT 103	BASIC Language 1	2	3	3
EDPT 105	COBOL Programming 1	3	3	4
	Totals	16	10	19
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
ACCT 103	Accounting 3	3	4	4
MATH 150	Principles of Statistics	4	0	4
EDPT 104	BASIC Language 2	2	3	3
EDPT 106	COBOL Programming 2	3	3	4
	Totals	16	10	19
	FOURTH QUARTER			
ENGL 121	Technical Writing	3	0	3
PSYC 101	Introduction to Psychology	4	0	4
BUSL 250	Business Law 1	4	0	4
EDPT 206	FORTRAN IV	3	3	4
EDPT 208	RPG II	3	3	4
	Totals	17	6	19
	FIFTH QUARTER			
BMNT 201	Management Concepts	4	0	4
ECON 101	Principles of Economics 1	4	0	4
EDPT 202	Computer Operation Management	3	0	3
EDPT 203	Business Projects	3	3	4
EDPT*	Data Processing Elective (1)	2-3	2-3	2-3
	Totals	16-17	5-6	17-18
	SIXTH QUARTER			
SPCH 103	Public Speaking and Human Communication	3	0	3
EDPT*	Data Processing Electives (2)	8-9	8-9	8-9
	Totals	11-12	8-9	11-12

* Data Processing Electives: EDPT 201 C Language, EDPT 204 Microcomputer Applications, EDPT 205 Business Data Systems and Communications, EDPT 207 Pascal, AISM 310 Data Base Management, AISM 320 Systems Analysis and Design

Secretarial Technology with Majors in Executive Secretarial and General Secretarial

Various positions are available after completion of one of the secretarial majors. The general secretarial graduate is qualified to fill a broad range of office positions which require technical skills. This student is trained as a machine transcriptionist.

The executive secretarial graduate has a high degree of stenographic speed and accuracy. The executive secretary is responsible for supervision of other clerical personnel, all types of correspondence, and private and confidential reports.

Medical and legal secretarial graduates are trained to prepare medical and legal documents.

Word processing specialists are qualified to keyboard, revise, and store documents for immediate or future use. Graduates are trained in all functions of a word processing system.

Previous Typing and Shorthand Training

Students who have had prior instruction in typing and shorthand at the high school level may receive advanced placement for their work if they meet the following criteria:

a. Successful completion of at least 180 hours (one school year) of typing and/or shorthand with full credit may be substituted for our Typing 1 and 2 and/or Shorthand 1 and 2.
b. Completion of at least 360 hours (two school years) of typing and/or shorthand with final grades of A or B in the second year may be substituted for our Typing 3 and/or Shorthand 3.

Students who have taken typing at a typewriter may want to take our typing classes, which are taught at the microcomputer and the typewriter.

Secretarial Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH 125	Business Mathematics	4	0	4
EXST 101	Typing 1	3	2	3
EXST 111*	Shorthand 1	3	2	3
BMNT 101	Introduction to Business	4	0	4
	Totals	18	4	18
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
EXST 102	Typing 2	3	2	3
EXST 112*	Shorthand 2	3	2	3
ECON 101	Principles of Economics 1	4	0	4
SOCI 101	Introduction to Sociology	4	0	4
	Totals	18	4	18
	THIRD QUARTER			
EXST 130	Records Management	3	2	3
ENGL 115S	Composition and Literature	4	0	4
EXST 140	Dictation and Transcription 1	3	2	3
EXST 103	Typing 3	3	2	3
EXST 113*	Shorthand 3	3	2	3
EDPT 101	Introduction to Data Processing	2	3	3
	Totals	18	11	19
	FOURTH QUARTER			
BUSL 250	Business Law 1	4	0	4
BMNT 242	Business Communications	4	0	4
EXST 214	Microcomputer Office Practice	3	2	3
EXST 240	Dictation and Transcription 2	3	2	3
EXST 241	Secretarial Practices 1	3	2	3
EXST 221	Word Processing 1	3	2	3
	Totals	20	8	20
	FIFTH QUARTER			
EXST 242	Secretarial Practices 2	3	2	3
SPCH 103	Public Speaking and Human Communication	3	0	3
PSYC 101	Introduction to Psychology	4	0	4
EXST 215	Microcomputer Office Applications 1	3	2	3
ACCT 101	Accounting 1	3	4	4
EXST 222	Word Processing 2	3	2	3
	Totals	19	10	20
	SIXTH QUARTER			
BMNT 202	Personnel Management	4	0	4
ACCT 110	Payroll Records and Accounting	2	3	3
EXST 216	Microcomputer Office Applications 2	3	2	3
EXST 243	Secretarial Practices 3	3	2	3
EXST 244	Medical Secretarial Practices	3	2	3
EXST 245	Legal Secretarial Practices	3	2	3
	Totals	18	11	19

* General secretarial majors must elect basic business courses instead of shorthand.

School of Engineering Technologies

Mission Statement

The principal role of the School of Engineering Technologies is to provide students with the opportunity to develop technical expertise, scientific knowledge, job skills, and work ethics that prepare them for entry into the social-industrial environment. Engineering technology programs provide both theory and practical training, being responsive to technological change and the industrial community while simultaneously stimulating analytical thinking and establishing a foundation for further education and learning.

The School of Engineering Technologies strives to meet the following goals:

- To respond to the varied educational needs of students, the community, and the industrial environment.
- To develop curricula that create an understanding of the practical and scientific bases of selected engineering technologies, and to modify curricula and teaching methods in response to technological advancement and change.
- To encourage the development of sound work ethics and a spirit of cooperation and excellence.
- To provide cooperative educational services to assist industries in keeping their employees current with changing technology.
- To seek and encourage participation from the business and industrial community in providing a professional forum for curricular evaluation and program review.
- To promote occupational and educational opportunities for all graduates.

The student's professional education is the School's primary mission, and the quality and success of engineering technologies' graduates provides the ultimate evaluation of the School's mission.

Engineering Technologies Programs at Shawnee State

The term "engineering technology" is described by the Accreditation Board for Engineering and Technology as follows:

> *"Engineering technology is that part of the technological field which requires the application of scientific and engineering knowledge and methods combined with technical skills in support of engineering activities: it lies in the occupational spectrum between the craftsman and the engineer at the end of the spectrum closest to the engineer."*

This description reflects the common understanding among people in engineering and related professions that the engineering technologist is a distinct type of professional whose main concern and interest is with existing operation, maintenance, and management of products and processes. Technologists are finding increasing acceptance in positions formerly filled by engineers in such fields as sales, manufacturing, field service, and process engineering.

The three associate degree programs, two bachelor's degree programs, and one certificate program offered by the School of Engineering Technologies provide the opportunity for graduates to enter careers in the most modern, high-demand segments of industry. All of the programs offer career-oriented, technical instruction grounded in a strong base of science and mathematics. Students who are interested in these programs should prepare themselves by taking mathematics and science courses in high school. Students who did not take mathematics and science courses in high school

are advised to take developmental courses available at Shawnee State, preferably during the summer before starting the fall quarter. The University administers placement and assessment tests that can identify deficiencies in mathematics or English and place each student in appropriate courses.

Articulation from Shawnee State's associate degree programs or associate degree programs in technology from other colleges into the junior year of our B.S. programs is possible. Interested students should see their faculty advisors for details.

Graduates of associate degree programs can expect to find jobs as technicians or production operators. Graduates with bachelor's degrees are prepared for problem-solving jobs in production management, technical support departments, or other mid-level technical positions.

Students in the B.S. degree programs in engineering technology are required to complete all courses in the university's general education core. In addition, the School of Engineering Technologies requires that all B.S. degree candidates take a core curriculum of courses in mathematics, physics, computer programming, and engineering sciences.

Bachelor of Science in Electrical and Computer Engineering Technology

This degree prepares graduates for a host of career opportunities in a rapidly-growing segment of the economy. Modes of life have been transformed dramatically by the widespread use of the computer, and it is certain that even more dramatic changes are in store for society as a result of current progress in electrical and computer engineering technology.

The Department of Labor predicts fastest-growing employment rates in the following professions: computer analysts, computer programmers, computer service, and electronic technicians. This means that graduates of this program will have quite an advantage in the job market—which continues to become more and more competitive. Some of the positions available to graduates of the Electrical and Computer Engineering Technology program include:

- Computer Programmer
- Control Specialist
- Data Communications Specialist
- Digital System Designer
- Hardware Designer
- Systems Analyst
- Maintenance Engineer
- Technical Manager
- Technical Representative
- Telecommunications Specialist

Entry-level salaries and benefits for graduates of the Electrical and Computer Engineering Technology program are excellent.

Electrical and Computer Engineering Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
MATH 131	College Algebra 2	4	0	4
ETCO 110	Introduction to Engineering Technology	1	0	1

	FIRST QUARTER (cont'd)			
EMNG 111	Electrical Fundamentals 1 (DC)	3	3	4
ENGL 111S	Discourse and Composition	4	0	4
EDPT 103	BASIC Language 1	2	3	3
	Totals	14	6	16
	SECOND QUARTER			
MATH 132	Trigonometry and Analytic Geometry	4	0	4
EMNG 112	Electrical Fundamentals 2 (AC)	3	3	4
EMNG 115	Electromechanical Devices	2	3	3
ENGL 112S	Composition and Research	4	0	4
ENDR 101	Engineering Drawing 1	1	4	3
	Totals	14	10	18
	THIRD QUARTER			
MATH 110S	Mathematics in Society	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
EMNG 121	Electronics 1	2	4	3
EMNG 105	Electromechanical Drawing	1	3	2
ENGL 115S	Composition and Literature	4	0	4
	Totals	15	7	17
	FOURTH QUARTER			
MATH 201	Calculus 1	4	0	4
EMNG 201	Introduction to EM Systems	2	3	3
EMNG 122	Electronics 2	2	3	3
EMNG 202	Statics and Strength of Materials	2	4	3
EMNG 204	Control Devices	2	3	3
	Totals	12	13	16
	FIFTH QUARTER			
MATH 202	Calculus 2	4	0	4
EMNG 209	Robotics	2	2	3
ENGL 121	Technical Writing	3	0	3
EMNG 211	Electronic Logic Circuits 1	2	4	3
BIOL 110S	Life Sciences Core Course	4	0	4
	Totals	15	6	17
	SIXTH QUARTER			
EDPT 206	Fortran IV	3	3	4
EMNG 215	Electromechanical Design*	1	5	3
CADD 101	CADD	1	5	3
EMNG 212	Electronic Logic Circuits 2	2	4	3
SOCI 110S	Foundations of Social Science	4	0	4
	Totals	11	17	17
ETEC 285	Summer Internship: 6 credit hours (optional)			
	SEVENTH QUARTER			
PHYS 311	Physics 1	3	3	4
ETEC 310	Network Analysis	3	0	3
ETEC 320	Digital Computer Systems 1	3	3	4
ETEC 330	Advanced Program Language*	1	5	3
ENGL 225S	Civilization and Literature 1	4	0	4
	Totals	14	11	18

* The student who is interested in a career in the area of control systems may substitute the following group of courses: IMST 202 Programmable Controllers 1, PENG 355 Thermodynamics and Heat Transfer, ETEC 360 Electric Machinery and Controls, ETEC 370 Basic Control Systems, ETEC 375 Computer Control of Instrumentation, ETEC 470 Automatic Control Systems

	EIGHTH QUARTER			
ETCO 310	Fluid Power	3	2	4
ETEC 321	Digital Computer Systems 2	3	3	4
ENGL 226S	Civilization and Literature 2	4	0	4
PHYS 312	Physics 2	3	3	4
	Totals	13	8	16
	NINTH QUARTER			
ETEC 340	Computer Operating Systems	2	3	3
ETEC 350	Advanced Micro Design*	3	3	4
ETCO 210	Occupational Safety and Health	3	0	3
ENGL 227S	Civilization and Literature 3	4	0	4
PHYS 313	Physics 3	3	3	4
	Totals	15	9	18
ETEC 385	Summer Internship: 6 credit hours (optional)			
	TENTH QUARTER			
ETEC 420	Discrete Mathematics and Digital Sig. Process	3	0	3
ETEC 425	Data Base Management System*	3	0	3
ETEC 430	Computer Interfacing Systems*	3	0	3
ETEC 435	Electric Power Distribution	4	0	4
ETCO 485S	Community Involvement	**	**	2
	Totals	**	**	15
	ELEVENTH QUARTER			
ETEC 440	Digital Control Systems	3	3	4
ETEC 490A	Senior Project 1	**	**	4
ETEC 445	Data Communication	4	0	4
ETCO 320	Industrial Management	3	0	3
	Totals	**	**	15
	TWELFTH QUARTER			
ETEC 460	Manufacturing Automation	4	0	4
ETEC 490B	Senior Project 2	**	**	4
ETCO 490S	Senior Seminar	**	**	2
PHIL 320S	Ethics in Public and Private Life	4	0	4
	Totals	**	**	14

* The student who is interested in a career in the area of control systems may substitute the following group of courses: IMST 202 Programmable Controllers 1, PENG 355 Thermodynamics and Heat Transfer, ETEC 360 Electric Machinery and Controls, ETEC 370 Basic Control Systems, ETEC 375 Computer Control of Instrumentation, ETEC 470 Automatic Control Systems

** Variable hours, dependent on project approvals.

Bachelor of Science in Plastics Engineering Technology

Plastics engineering technology applies the concept of engineering technology to the specific domain of plastics processing. Products made by the plastics industry range from simple articles like bottles and cups to highly intricate molded parts for the automotive, electronics, and medical products industries.

The production of these products requires knowledgeable technologists who can design a product, select the best plastic for that product, design a mold, and establish the optimum operating conditions for the machines that are used to mold the product. The Plastics Engineering Technology program prepares the student to become a member of the team that accomplishes these objectives.

The program emphasizes plastics molding operations and includes significant components in the areas of materials, mold design, and production methods. Graduates of the program are expected to have attained a level of expertise which will enable them to assume an entry-level management position in a plastics production environment. Typical job titles are process engineer, project engineer, and production manager.

Plastics Engineering Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH 110S	Mathematics in Society	4	0	4
CHEM 141	General Chemistry 1	3	3	4
PENG 101	Introduction to Plastics	3	2	3
ETCO 110	Introduction to Engineering Technology	1	0	1
	Totals	15	5	16
	SECOND QUARTER			
ENGL 112S	Research and Composition	4	0	4
MATH 131	College Algebra 2	4	0	4
CHEM 142	General Chemistry 2	3	3	4
ENDR 101	Engineering Drawing 1	1	4	3
PENG 102	Machine Tools	2	4	3
	Totals	14	11	18
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 132	Trigonometry and Analytic Geometry	4	0	4
CHEM 143	General Chemistry 3	3	3	4
EDPT 103	BASIC Language	2	3	3
ENDR 102	Engineering Drawing 2	1	4	3
	Totals	14	10	18
	FOURTH QUARTER			
PSCI 110S	Physical Science Core Course	4	0	4
ETEC 210	Introduction to Electricity	3	3	4
PENG 240	Plastics Processing 1	2	3	3
CHEM 200	Introduction to Organic Chemistry 1	3	3	4
	Totals	12	9	15
	FIFTH QUARTER			
MATH 201	Calculus 1	4	0	4
PENG 241	Plastics Processing 2	2	3	3
CHEM 201	Introduction to Organic Chemistry 2	3	3	4
ETEC 220	Introduction to Electronics	3	3	4
	Totals	12	9	15
	SIXTH QUARTER			
SOCI 110S	Foundations of Social Science	4	0	4
MATH 202	Calculus 2	4	0	4
PENG 242	Plastics Processing 3	2	3	3
BIOL 110S	Life Sciences Core Course	4	0	4
	Totals	14	3	15
	SEVENTH QUARTER			
ENGL 225S	Civilization and Literature	4	0	4
PHYS 311	Physics 1	3	3	4
ENGL 121	Technical Writing	3	0	3

	SEVENTH QUARTER (cont'd)			
PENG 203	Testing of Plastic Materials	2	3	3
PENG 310	Properties of Thermoplastic Resins*	2	3	3
	Totals	14	9	17
	EIGHTH QUARTER			
ENGL 226S	Civilization and Literature	4	0	4
PHYS 312	Physics 2	3	3	4
ETCO 310	Fluid Power	3	2	4
EMNG 209	Robotics	2	2	3
PENG 311	Properties of Thermoset Resins*	2	3	3
	Totals	14	10	18
	NINTH QUARTER			
ENGL 227S	Civilization and Literature	4	0	4
PHYS 313	Physics 3	3	3	4
CADD 210	CADD	1	5	3
PENG 312	Composites*	2	3	3
CHEM 350	Polymer Chemistry	2	3	3
	Totals	12	14	17
	TENTH QUARTER			
PHIL 320S	Ethics in Public and Private Life	4	0	4
PENG 410	Mold Design 1	2	4	3
ETCO 210	Occupational Safety and Health	3	0	3
PENG 420	Plastic Part Design*	2	4	3
PENG 490	Senior Project	0	0	4
	Totals	11	8	17
	ELEVENTH QUARTER			
PENG 411	Mold Design 2	2	4	3
ETCO 320	Industrial Management	3	0	3
PENG 450	Advanced Processing 1	3	3	4
PENG 209	Fabrication and Finishing	3	3	4
PENG 205	Plant Layout and Material Handling	3	2	3
	Totals	14	12	17
	TWELFTH QUARTER			
ETCO 485S	Community Involvement	2	0	2
ETCO 490S	Senior Seminar	4	0	4
PENG 460	Advanced Processing 2	3	3	4
PENG 202	Production Control and Planning	3	3	4
PENG 303	Quality Control	3	3	4
	Totals	9	9	18

* Students whose interest is in manufacturing methods may choose to substitute the following group of courses: PENG 210 Properties of Polymeric Materials, PENG 355 Thermodynamics and Heat Transfer, PENG 360 Production Cost Analysis, PENG 220 Computer Aided Manufacturing, PENG 430 Statistical Process Control/Quality Control. This option will be made available based on student demand.

Associate of Applied Science in Electromechanical Engineering Technology

This degree prepares graduates for many career opportunities in a rapidly-growing segment of the economy. Modern life is very dependent on electromechanical

technology. Nearly every aspect of living is dependent on electricity. The Electromechanical Technology program is designed to prepare the individual to become a competent electromechanical technician capable of working and communicating with engineers, scientists, and production personnel.

The job market is almost unlimited for graduates of the Electromechanical Engineering Technology program. Examples of positions in which our graduates are employed include:

- Computer Development Technician
- Computer Service Technician
- Draftsman
- Electrician
- Electronic Assembler
- Electronic Assembly Foreman
- Coal Mining Equipment Manufacturing Engineer
- Instrumentation Technician
- Maintenance Foreman

Entry-level salaries and benefits for graduates of the Electromechanical Engineering Technology program are excellent.

Associate of Applied Science in Electromechanical Engineering Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH 130	College Algebra 1	4	0	4
ECON 101	Principles of Economics	4	0	4
EMNG 111	Electrical Fundamentals 1	3	3	4
ENDR 101	Engineering Drawing 1	1	4	3
	Totals	16	7	19
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
MATH 131	College Algebra 2	4	0	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
EMNG 115	Electromechanical Devices	2	3	3
EMNG 112	Electrical Fundamentals 2	3	3	4
	Totals	16	9	19
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 132	Trigonometry and Analytic Geometry	4	0	4
PHYS 202	Physics 2 (Electricity)	3	3	4
EMNG 121	Electronics 1	2	4	3
EMNG 105	Electromechanical Drawing	1	3	2
	Totals	14	10	17
	FOURTH QUARTER			
ENGL 121	Technical Writing	3	0	3
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
EMNG 201	Introduction to Electromechanical Systems	2	3	3
EMNG 202	Mechanical Systems	2	4	3
EMNG 204	Control Devices	2	3	3
EMNG 122	Electronics 2	2	3	3
	Totals	14	16	19
	FIFTH QUARTER			
SOCI 101	Introduction to Sociology	4	0	4
EMNG 211	Electronic Logic Circuits 1	2	4	3

	FIFTH QUARTER (cont'd)			
EMNG 209	Robotics	2	2	3
EMNG 208	Automatic Control Systems	3	2	3
EMNG 206	Hydraulics and Pneumatics	3	2	3
ETCO 210	Occupational Safety and Health	3	0	3
	Totals	17	10	19
	SIXTH QUARTER			
PSYC 101	Introduction to Psychology	4	0	4
EMNG 212	Electronic Logic Circuits 2	2	4	3
EMNG 215	Electromechanical Design	1	5	3
EMNG 220	Electromechanical Systems	2	3	3
ENGR 209	Industrial Supervision	3	0	3
	Totals	12	12	16

Robotics Major Option

Students enrolled in Electromechanical Engineering Technology or Instrumentation and Control Engineering Technology may earn a major in Robotics. Students must have advisor approval and must complete 20 credit hours of the following courses in numerical sequence.

ROBO 210 Introduction to Robotics
ROBO 211 Robotic Interfacing
ROBO 212 Robotic Applications
ROBO 213 Advanced Robotic Applications
ROBO 214 Robotic Maintenance/Servicing

Associate of Applied Science in Instrumentation and Control Engineering Technology

Instrumentation is the field of science dealing with the art of measurement, control, and process manipulation. The instrumentation technician must calibrate equipment within the standards set by the National Institute of Standards and Technology in Washington, D.C. Although much of this work has been done by electricians and other in-house workers, the rise in automation and computer control has created a need for workers who are specially trained in the field.

This degree prepares graduates for many career opportunities in a rapidly-growing segment of the economy. Modern manufacturing is dependent on instrumentation technology. Every aspect of automation and process control is dependent on the instrumentation technician. The Instrumentation and Control Engineering Technology program is designed to prepare the individual to become a competent instrumentation technician capable of working and communicating with engineers, scientists, and production personnel.

The job market is almost unlimited for graduates of the Instrumentation and Control Engineering Technology program. Examples of positions in which our graduates are employed include:

- Draftsman
- Electrician
- Maintenance Foreman
- Process Operator
- Instrument Technician
- Supervisor Bio-Med Technicians
- Plant Engineer

- Maintenance Supervisor
- Supervisory Engineer
- Supervisor of Instrumentation and Electrical Technicians

The salaries for graduates of the Instrumentation and Control Engineering Technology program are excellent.

Associate of Applied Science in Instrumentation and Control Engineering Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
MATH 130	College Algebra 1	4	0	4
ENDR 101	Engineering Drawing 1	1	5	3
EMNG 111	Electrical Fundamentals 1	3	3	4
CHEM 121	Introduction to General Chemistry 1	3	3	4
	Totals	15	11	19
	SECOND QUARTER			
ENGL 112S	Research and Composition	4	0	4
MATH 131	College Algebra 2	4	0	4
ENDR 105	Blueprint Reading	2	0	2
EMNG 112	Electrical Fundamentals 2	3	3	4
EDPT 103	BASIC Language	2	3	3
	Totals	15	6	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 132	Trigonometry and Analytic Geometry	4	0	4
IMST 111	Industrial Electronics	2	5	4
IMST 103	Industrial Electricity	2	5	3
IMST 120	Process Instrumentation	3	3	4
	Totals	15	13	19
IMST 185	Instrumentation Internship	0	40	6
	FOURTH QUARTER			
ENGL 121	Technical Writing 1	3	0	3
PSYC 101	Introduction to Psychology	4	0	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
IMST 201	Instrumentation Electronics	2	5	4
IMST 202	Programmable Controllers 1	3	5	4
	Totals	15	13	19
	FIFTH QUARTER			
IMST 224	Industrial Control 1	3	3	4
IMST 221	Instrument Fundamentals	3	3	4
ETCO 210	Occupational Safety and Health	3	0	3
IMST 203	Programmable Controllers 2	3	5	4
PHYS 202	Physics 2 (Electricity)	3	3	4
	Totals	15	14	19
	SIXTH QUARTER			
IMST 223	Measurement Principles	3	4	4
IMST 225	Distributive Control	3	3	4
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
IMST 211	Fluid Mechanics	3	3	4
SPCH 103	Public Speaking and Human Communication	3	0	3
	Totals	15	13	19

Robotics Major Option

Students enrolled in Electromechanical Engineering Technology or Instrumentation and Control Engineering Technology may earn a major in Robotics. Students must have advisor approval and must complete 20 credit hours of the following courses in numerical sequence:

ROBO 210 Introduction to Robotics
ROBO 211 Robotic Interfacing
ROBO 212 Robotic Applications
ROBO 213 Advanced Robotic Applications
ROBO 214 Robotic Maintenance/Servicing

Associate of Applied Science in Plastics Engineering Technology

Today, plastics is one of the fastest growing industries in the United States. The economic impact of the plastic industry exceeds 90 billion dollars yearly and provides approximately 1.4 million jobs. As plastics continues its rapid growth in both sales and consumption volume, the industry will continue to lead others in both expansion and stability. Plastic has truly become the material of the future. The projected forecasts of growth trends are creating positive employment opportunities for the qualified technician.

The Plastics Engineering Technology associate degree program prepares the student to become a valuable and integral part of the multifaceted plastics field. Graduates of this program are prepared for employment in any of the three main areas of the plastics industry: chemical, processing, or fabricating.

Graduates of this program are prepared to enter positions dealing with injection molding, extrusion, blow molding, thermoforming, RIM, structural and non-structural foams, RO processing, rotomolding, supervision, industrial statistics, mold preparation, setup, quality control, production control, fabrication, and semi-professional research and development positions.

Job opportunities and positions available for the plastics technology graduate might be:

The Process Engineer. Assists company engineers in the development of prototype molds and the troubleshooting of current production molds.

The Quality Control Supervisor. Responsible for setting up and maintaining quality control and SQC specifications and standards for quality molding operations.

The Production Technician. Operates and supervises the operation of commercial equipment used in the production of plastic items such as an extruder, injection molding machine, and thermoformer.

The Senior Technician. Supervises other technicians in various types of operations and takes part in projects or process evaluations.

The Application Research Technician. Blends and compounds plastics with additives, fillers, colors, etc. Assists in selecting proper plastics for specific products and applications.

The Technician Service Representative. As an employee of a plastics resin or equipment manufacturer, aids customers in the proper selection and use of such products and in solving customer problems.

Quality Control Technician. Samples raw materials and finished products and performs numerous tests to assure compliance with quality specifications.

The Pilot Plant Technician. Assists engineer in operating experimental pilot plants; responsible for maintaining high production levels.

The Chemical Production Technician. Controls the operation of chemical production facilities; responsible for maintaining high production levels.

The Chemical Research Technician. Assures a high quality level in products manufactured by performing chemical tests in the laboratory.

The Pollution Control Technician. Takes samples of air and water and analyzes them to assure low pollution levels; assists in the development of pollution control methods.

The Chemical Sales or Technical Service Representative. Aids customers in the choice of the correct product to purchase and assists in solving customer materials problems.

Many other positions are available with the attainment of the proper types of professional work experiences. Numerous types of supervisory level positions are open to the experienced technician with solid technical training, as well as the ability and desire to assume responsibility.

Associate of Applied Science in Plastics Engineering Technology Curriculum

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
PENG 101	Introduction to Plastics	3	2	3
PENG 102	Machine Tools	2	4	3
CHEM 121	Introduction to General Chemistry 1	3	3	4
ENGL 111S	Discourse and Composition	4	0	4
MATH 130	College Algebra 1	4	0	4
	Totals	16	9	18
	SECOND QUARTER			
ENDR 101	Engineering Drawing 1	1	4	3
CHEM 122	Introduction to General Chemistry 2	3	3	4
ENGR 101	Industrial Supervision	3	0	3
ENGL 112S	Composition and Research	4	0	4
MATH 131	College Algebra 2	4	0	4
	Totals	15	7	18
	THIRD QUARTER			
PENG 103	Extrusion/Blow Molding	2	3	3
CHEM 200	Introduction to Organic Chemistry	3	3	4
ENGL 115S	Composition and Literature	4	0	4
MATH 132	Trigonometry and Analytic Geometry	4	0	4
ECON 101	Principles of Economics 1	4	0	4
	Totals	17	6	19
	FOURTH QUARTER			
PENG 104	Thermoforming	2	3	3
PENG 209	Fabrication/Finishing	3	3	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
ENGL 121	Technical Writing	3	0	3
ETEC 210	Introduction to Electricity	3	3	4
	Totals	14	12	18
	FIFTH QUARTER			
PENG 105	Injection Molding	2	3	3
PENG 203	Testing of Plastics	2	3	3
PENG 205	Plant Layout and Material Handling	3	2	3
PHYS 202	Physics 2 (Electricity)	3	3	4
ETEC 211	Introduction to Electronics	3	3	4
	Totals	13	14	17
	SIXTH QUARTER			
PENG 201	Thermal Molding Machine Controls	3	3	4
PENG 202	Production Control and Planning	3	3	4

	SIXTH QUARTER (cont'd)			
PENG 210	Properties of Polymeric Materials	3	3	4
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
ETCO 210	Occupational Safety and Health	3	0	3
	Totals	15	12	19

Computer Aided Drafting and Design Technician Program
(One-year Certificate Program)

The CADD certificate prepares graduates for a career in a field that is rapidly replacing the drawing board. Microcomputers have made CADD practical for most companies involved in drafting, design, and engineering. CADD is one of the fastest growing fields today. The demand is expected to increase steadily through the 1990's.

CADD operators are in demand in all of the following fields and industries:

- Automobile
- Aerospace
- Aluminum
- Agriculture
- Building and construction
- Civil engineering
- Electronics
- Foundry
- Home appliance
- Medical equipment manufacture
- Packaging
- Petroleum
- Piping
- Plastics
- Process instrumentation
- Steel
- Tool design
- Transportation
- Utilities
- Welding

Some unique uses of CADD are in law enforcement, the cosmetic dentistry, and cosmetic surgery. CADD operators typically earn higher wages than do conventional drafters.

Computer Aided Drafting and Design Technician Program Curriculum

In this four-quarter program, students take eleven drafting courses, two using the conventional drafting board and instruments. The program provides extensive hands-on training in the drafting disciplines.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
EXST 101	Typing 1	3	2	3
ENDR 101	Engineering Drawing 1	1	4	3
CADD 101	Introduction to CADD	1	5	3
MATH 101	Basic Algebra	4	0	4
ENGL 111S	Discourse and Composition	4	0	4
	Totals	13	11	17
	SECOND QUARTER			
MATH 105	Plane Geometry and Algebra	4	0	4
CADD 102	Mechanical Drawing with 3D	1	5	3
CADD 103	Electronic Schematics and Wiring Diagrams	1	5	3
EDPT 101	Introduction to Data Processing	2	3	4
ENDR 105	Blueprint Reading	2	0	2
	Totals	10	13	16
	THIRD QUARTER			
ENDR 102	Engineering Drawing 2	1	5	3
CADD 104	Advanced Technical Drawing	1	5	3

	THIRD QUARTER (cont'd)			
CADD 105	Mapping with CADD	1	5	3
SOCI 101	Introduction to Sociology	4	0	4
	Totals	7	15	13
	FOURTH QUARTER			
CADD 106	Structural Details and Floor Plans	1	5	3
CADD 107	Piping Drawings	1	5	3
CADD 108	Welding Drawings	1	5	3
CADD 109	Castings and Mold Design	1	5	3
	Totals	4	20	12

Division of Arts and Humanities

Mission Statement

The mission of the Division of Arts and Humanities is to develop students who can think and read critically, write and speak clearly, and who understand the contributions literature, art, music, and philosophy can make to the quality of daily life. The division believes that the skills of reading, writing, and thinking are the foundations upon which a successful college career are built, and, therefore, all departments within the division accept as part of their charge the continuous development of writing and speaking skills. To this end, the division is committed to providing opportunities for the integrated study of a variety of art forms as well as to infusing its academic programs with American, international, and multi-cultural perspectives.

Bachelor of Arts with a Major in English/Humanities

The Division of Arts and Humanities offers a bachelor of arts with a major in English/Humanities. This degree provides students who love the study of the English language and humanities an opportunity to combine their literary bent with other courses for a variety of career opportunities. To complete the degree, students must complete 44 hours of English and 20 hours from the many areas which make up the humanities curriculum.

Many careers require excellent communications skills, and students can prepare by taking the appropriate courses for careers in fields such as journalism, advertising, public relations, magazine writing, broadcasting, and technical writing.

In addition, students can take the courses necessary for certification to teach English/Humanities in elementary schools. (Twenty-four hours of upper division courses are required in English; four hours of upper division work are required in the humanities electives.)

Divisional Requirements

Note to students: To ensure a broad education, the Division of Arts and Humanities requires that all students select courses which meet the following distribution. Courses that students take in their majors may double count to fulfill these requirements. A course in major English authors would meet part of the major requirement and would double count as part of the requirement in International Perspective. Courses taken in the university core will **not** fulfill these requirements.

Hours	Academic Focus
12	**American Perspective** (Courses from two or more areas) Students may take courses in history, political science, sociology, government, literature, music, theater, art—any of the social science/humanities areas—that will help to define the nature of American culture and experience, both national and regional.

Hours	Academic Focus
12	**International Perspective** (Courses from two or more areas) Students enroll in social science/humanities courses designed to expand their awareness of other cultures. Courses are offered in western and non-western cultures. Study of a foreign language is strongly encouraged.
9	**Science** (Courses from two or more areas) Students enroll in approved science courses.
4	**Philosophy** Students enroll in one of the following: philosophy, logic, or comparative religion.

English/Humanities Curriculum

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Credit Hours
	FIRST QUARTER	
ENGL 111S	Discourse and Composition	4
	Humanities Elective	4
MATH 110S	Mathematics in Society	4
	Elective	4
	Totals	16
	SECOND QUARTER	
ENGL 112S	Composition and Research	4
SOCI 110S	Foundations of Social Science	4
	Humanities Elective	4
	Elective	4
	Totals	16
	THIRD QUARTER	
ENGL 115S	Composition and Literature	4
ENGL 200	Introduction to Literature	4
	Humanities Elective	4
PSYC 151	Human Growth and Development	4
	Totals	16
	FOURTH QUARTER	
ENGL 225S	Civilization and Literature 1	4
ENGL 211	Survey of English Literature 1 (or ENGL 251 Survey of American Literature 1)	4
PSCI 110S	Physical Science Core Course	4
	Elective	4
	Totals	16
	FIFTH QUARTER	
ENGL 226S	Civilization and Literature 2	4
ENGL 212	Survey of English Literature 2 (or ENGL 252 Survey of American Literature 2)	4
	Humanities Elective	4
	Elective	4
	Totals	16

	SIXTH QUARTER	
ENGL 227S	Civilization and Literature 3	4
	Philosophy Elective	4
BIOL 110S	Life Sciences Core Course	4
	Humanities Elective	4
	Totals	16
	SEVENTH QUARTER	
PHIL 320S	Ethics in Public and Private life	4
LING 270	Nature of Language	4
ENGL 315	Theory and Practice in Composition	4
	Electives	8
	Totals	20
	EIGHTH QUARTER	
ENGL 362	Patterns of English (or ENGL 365 History of English)	4
ENGL 301	Shakespeare 1 (or ENGL 302 Shakespeare 2)	4
	Literature After 1800 (select one course)	4
	American Literature (select one course)	4
	Totals	16
	NINTH QUARTER	
	Electives	16
	Totals	16
	TENTH QUARTER	
ENGL 490S	Senior Seminar	4
	Literature as Social Perspective (select one course)	4
	Elective	4
	Totals	12
	ELEVENTH QUARTER	
ENGL 485S	Community Involvement	4
	Electives	8
	Totals	12
	TWELFTH QUARTER	
	Electives	16
	Totals	16

English/Humanities with Elementary Education Certification Curriculum

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Credit Hours
	FIRST QUARTER	
ENGL 111S	Discourse and Composition	4
HPER 202	Personal and Community Health	4
MATH 110S	Mathematics in Society	4
	Humanities Elective	4
	Totals	16

	SECOND QUARTER	
ENGL 112S	Composition and Research	4
MATH 120	Elementary Mathematics 1	5
EDUC 110	The Teacher as an Inquiring Professional 1	2
ENGL 200	Introduction to Literature	4
	Totals	15
	THIRD QUARTER	
ENGL 115S	Composition and Literature	4
MATH 121	Elementary Mathematics 2	5
EDUC 210	The Teacher as an Inquiring Professional 2	2
ENGL 251	Survey of American Literature 1 (or ENGL 211 Survey of English Literature 1)	4
BIOL 110S	Life Sciences Core Course	4
	Totals	19
	FOURTH QUARTER	
ENGL 225S	Civilization and Literature 1	4
EDUC 220	Social/Physical/Intellectual Growth and Development	3
ENGL 252	Survey of American Literature 2 (or ENGL 212 Survey of English Literature 2)	4
	Philosophy Elective	4
	Humanities Elective	4
	Totals	19
	FIFTH QUARTER	
ENGL 226S	Civilization and Literature 2	4
EDUC 230	Instructional Media, Technology, and Computers	2
	American Literature (select one course)	4
SOCI 110S	Foundations of Social Science	4
	Science Elective	4
	Totals	18
	SIXTH QUARTER	
ENGL 227S	Civilization and Literature 3	4
EDUC 240	Foundations and Competing Epistemologies 1	2
ENGL 301	Shakespeare	4
	Science Elective	4
	Humanities Elective	4
	Totals	18
	SEVENTH QUARTER	
EDUC 310	The Teacher as an Inquiring Professional 3	3
PHIL 320S	Ethics in Public and Private Life	4
HPER 270	Physical Education for the Elementary Classroom	4
	Humanities Elective	4
	Totals	15
	EIGHTH QUARTER	
EDUC 320	Interdisciplinary Teaching Methods 1	7
LING 270	Nature of Language	4
ENGL 315	Theory and Practice in Composition	4
	Totals	15
	NINTH QUARTER	
EDUC 340	Foundations and Competing Epistemologies 2	2
ENGL/LING 362	Patterns of English (or ENGL/LING 365 History of English)	4
SPCH 103	Public Speaking and Human Communication	3
PSYC 273	Human Adjustment	4
	Totals	13
	TENTH QUARTER	
ENGL 300	Children's Literature	4
ENGL 490S	Senior Seminar	4
EDUC 410	The Teacher as an Inquiring Professional 4	2
EDUC 420	Interdisciplinary Teaching Methods 2	7
	Totals	17

	ELEVENTH QUARTER	
EDUC 440	Foundations and Competing Epistemologies 3	2
EDUC 450	Directed Teaching and Seminar	15
	Totals	17
	TWELFTH QUARTER	
	Literature as Social Perspective (select one course)	4
ENGL 485S	Community Involvement	4
	Post 1800 Literature (select one course)	4
EDUC 460	Senior Action Research	2
	Totals	14

Division of Mathematics and Science

Mission Statement

The purpose of the Division of Mathematics and Science is to prepare the general education student to live and succeed in an increasingly complex and technological world. The goal of placing science into perspective in modern society is developed further for students majoring in natural science. These students obtain a solid base of understanding across science disciplines while building depth in an area of concentration.

Bachelor of Science

Science and mathematics graduates are currently in demand, both in elementary education and in the private sector. By choosing a bachelor of science with a major in natural science, you can prepare yourself for an exciting career in an area with many opportunities and a higher-than-average salary.

Shawnee State University's bachelor of science will introduce you to a wide range of basic science disciplines and allow you to concentrate on one specific area as well.

Industry is especially interested in graduates with a degree in science. Graduates are also in demand for positions as science laboratory technicians. If you enjoy doing experiments, then perhaps this is an area for you. Science laboratory technicians perform experiments and tests in either a lab or in the field, and often assist a scientist in process development or research.

Combined with elementary education certification, this degree provides the flexibility needed in today's changing world. The graduate is prepared to teach or to pursue any of several other career opportunities in the sciences or mathematics. If you already have an allied health associate degree, a bachelor's degree gives you the skills and credentials to advance in the health professions.

Mathematics Background Requirements

Engineering technology students who have not had high school algebra or who have a low ACT score in mathematics should take MATH 101 and/or MATH 105 to give them background for the required sequence of MATH 130, 131, and 132. Students who have had high school algebra and geometry and an average ACT score in mathematics should take MATH 130, 131, and 132.

Students who have taken three or four years of high school mathematics, have an ACT score above the 75th percentile of the national norm, and score well on the mathematics placement test may have prerequisites for MATH 130, 131, 132, or 201 waived, with the approval of the mathematics department and start at the level appropriate for them.

All students should see the director of developmental education, located in the Business Annex, to make arrangements to take a mathematics assessment test before enrolling in a mathematics class. Interpretation of test scores and decisions about course placement will be done in conjunction with mathematics faculty. Prerequisites should be followed for courses in sequence.

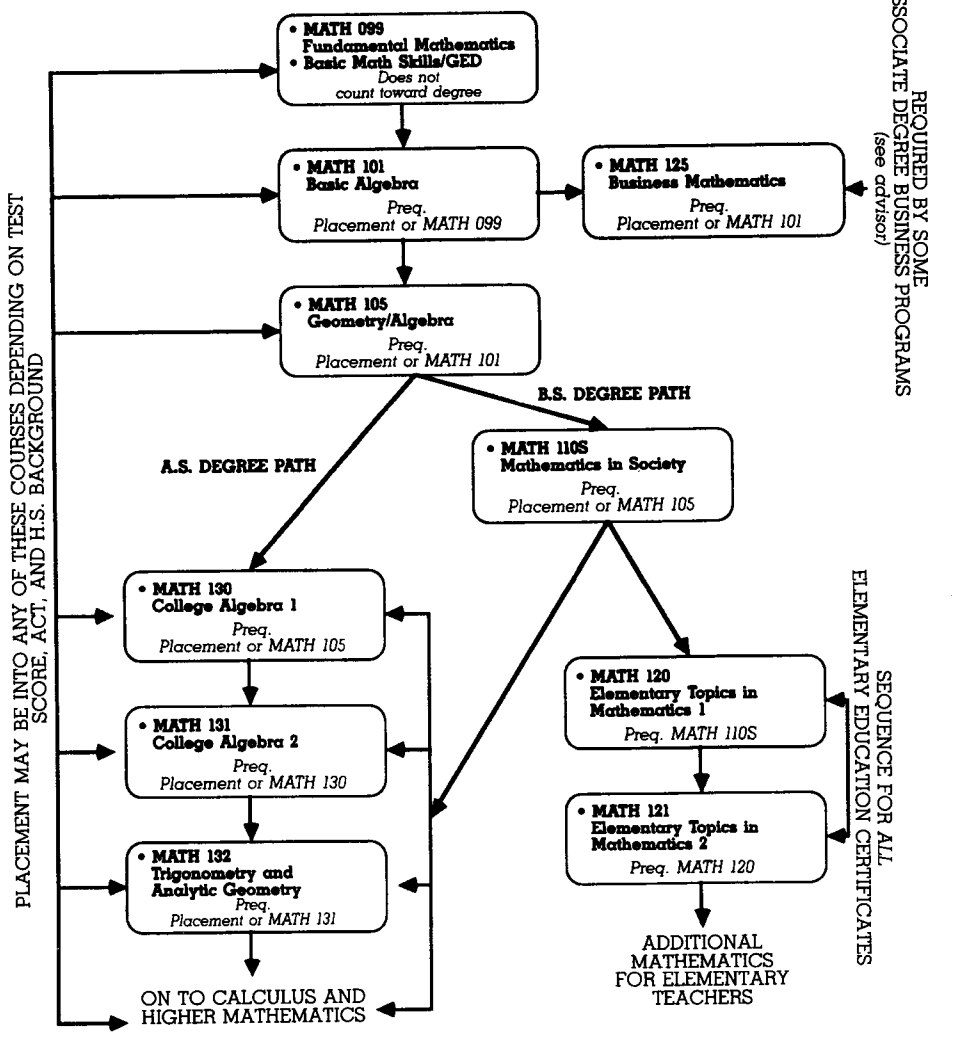
Mathematics at Shawnee State University

Degree-seeking students are required to take a mathematics placement test to determine in which mathematics class they should be enrolled. Entry to the mathematics sequence can occur at just about any point, depending on the student's mathematics placement test score, ACT mathematics score, and high school mathematics background and grades. Many of the mathematics courses are sequential, so it is important that students master the material in one course before moving on to the next.

The diagram below shows the normal progress through the mathematics courses. Only MATH 120 and 121 must be preceded by other SSU mathematics courses. All other courses can be entered as a result of placement.

Questions about placement or the appropriate course(s) for a student should be addressed to one of the faculty members in mathematics or the division chair.

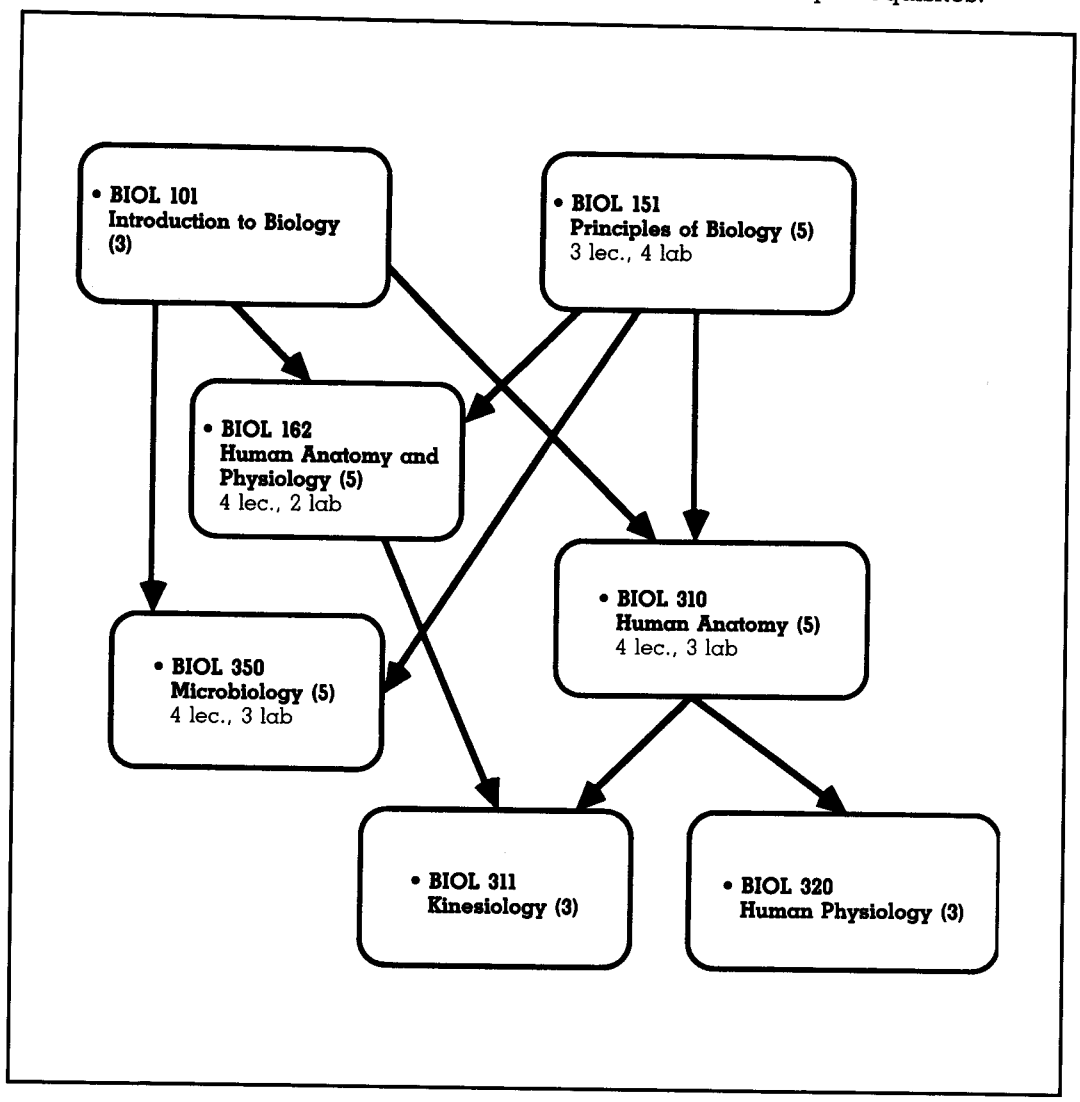
Mathematics Sequence



*MATH 201 (Calculus 1) has a prerequisite of MATH 131. Students taking more than one quarter of calculus are required to have MATH 132.

Allied Health Related Biology Courses

Allied health majors have several options for completing biology course requirements. Students should check with their advisor to learn the course sequence required in their program. The following flow chart indicates prerequisites.



Options Within the Natural Science Major

Area of Concentration	Option
Life Science	Pre-Medical Professions
Life Science	Elementary Certification
Life Science	Environmental Biology
Physical Science	Chemistry
Physical Science	Elementary Education
Mathematics	Applied Mathematics
Mathematics	Elementary Education

Bachelor of Science in Natural Science
Area of Concentration: Life Science
Option: Pre-Medical Professions

A concentration in the life sciences with a pre-medical option prepares students for entrance to a professional school of medicine. A wide range of science courses is required with this option to help prepare students for medical school entrance exams and requirements.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
BIOL 110S	Life Sciences Core Course	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
MATH 110S	Mathematics in Society	4	0	4
	Totals	16	0	16
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
BIOL 151	Principles of Biology	3	4	5
SOCI 110S	Foundations of Social Science	4	0	4
MATH 201	Calculus 1	4	0	4
	Totals	15	4	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 202	Calculus 2	4	0	4
BIOL 203	Principles of Animal Biology	4	4	6
EDPT 101	Introduction to Data Processing	3	2	3
	Totals	15	6	17
	FOURTH QUARTER			
ENGL 225S	Civilization and Literature 1	4	0	4
BIOL 310	Principles of Anatomy	4	3	5
CHEM 141	General Chemistry 1	3	3	4
GEOL 101	Rocks, Minerals, and Fossils	4	0	4
	Totals	15	6	17
	FIFTH QUARTER			
ENGL 226S	Civilization and Literature 2	4	0	4
GEOL	Elective	4	0	4
BIOL 320	Principles of Physiology	3	4	5
CHEM 142	General Chemistry 2	3	3	4
	Totals	14	7	17
	SIXTH QUARTER			
ENGL 227S	Civilization and Literature 3	4	0	4
BIOL 350	Microbiology	4	3	5
CHEM 143	General Chemistry 3	3	3	4
BIOL 351	Microbiology Lab	0	3	1
	Totals	11	9	14

	SEVENTH QUARTER			
BIOL	Elective	4	3	5
CHEM 305	Organic Chemistry 1	3	3	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
	Social Science/Humanities Elective	4	0	4
	Totals	14	9	17
	EIGHTH QUARTER			
BIOL	Elective	4	3	5
CHEM 306	Organic Chemistry 2	3	3	4
PHYS 202	Physics 2 (Electricity)	3	3	4
	Social Science/Humanities Elective	4	0	4
	Totals	14	9	17
	NINTH QUARTER			
BIOL	Elective	4	3	5
CHEM 307	Organic Chemistry 3	3	3	4
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
	Social Science/Humanities Elective	4	0	4
	Totals	14	9	17
	TENTH QUARTER			
BIOL 411	Biochemistry	3	3	4
NTSC 490S	Senior Seminar	4	0	4
BIOL 495	Senior Project	3	0	3
	Social Science/Humanities Elective	4	0	4
	Totals	14	3	15
	ELEVENTH QUARTER			
BIOL 410	Advanced Human Anatomy	3	4	5
BIOL 495	Senior Project	4	0	4
	Social Science/Humanities Elective	4	0	4
	Totals	11	4	13
	TWELFTH QUARTER			
BIOL	Elective	3	3	4
NTSC 485S	Community Involvement	2	0	2
	Social Science/Humanities Elective	4	0	4
PHIL 320S	Ethics in Public and Private Life	4	0	4
	Totals	13	3	14

Bachelor of Science in Natural Science

Area of Concentration: Life Science
Option: Environmental Biology

A concentration in the life sciences with an environmental biology option prepares students for work or graduate school in areas that require an understanding of ecological systems. Numerous government agencies and private companies are in need of employees who can monitor and assess environmental conditions.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
BIOL 110S	Life Sciences Core Course	4	0	4
BIOL 151	Principles of Biology	4	0	4
MATH 110S	Mathematics in Society	4	0	4
	Totals	16	0	16

	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
MATH 130	College Algebra 1	4	0	4
BIOL 202	Principles of Plant Biology	3	4	5
	Totals	15	4	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
SOCI 110S	Foundations of Social Science	4	0	4
MATH 131	College Algebra 2	4	0	4
BIOL 203	Principles of Animal Biology	4	4	6
	Totals	16	4	18
	FOURTH QUARTER			
GEOL 201	Physical Geology	4	0	4
BIOL 302	Dendrology	3	4	4
CHEM 141	General Chemistry 1	3	3	4
	Social Science Elective	4	0	4
	Totals	14	7	16
	FIFTH QUARTER			
BIOL 330	Ecology	3	2	4
CHEM 142	General Chemistry 2	3	3	4
HUMN	Elective	4	0	4
GEOL 202	Historical Geology	4	0	4
	Totals	14	5	16
	SIXTH QUARTER			
BIOL 271	Field Ornithology	3	3	4
EDPT	Elective	4	0	4
BIOL 272	Ohio's Natural Heritage	2	3	3
CHEM 143	General Chemistry 3	3	3	4
	Totals	12	9	15
	SEVENTH QUARTER			
GEOL	Elective	4	0	4
HUMN	Elective	4	0	4
BIOL 350	Microbiology	4	3	5
BIOL 351	Microbiology Lab	0	0	1
	Totals	12	3	14
	EIGHTH QUARTER			
	Social Science Elective	4	0	4
BIOL 366	Mycology	2	4	5
CHEM 223	Quantitative Analysis	3	6	5
MATH 250	Statistics 1	4	0	4
	Totals	13	10	18
	NINTH QUARTER			
PHIL 320S	Ethics in Public and Private Life	4	0	4
BIOL 303	Spring Flora	2	4	4
BIOL 330	Ecology	3	2	4
BIOL 331	Advanced Field Biology	2	4	4
	Totals	11	10	16
	TENTH QUARTER			
	Social Science Elective	4	0	4
NTSC 490S	Senior Seminar	4	0	4
ENGL 225S	Civilization and Literature 1	4	0	4
CHEM/PHYS	Elective	3	3	4
	Totals	15	3	16

	ELEVENTH QUARTER			
HUMN	Elective	4	4	4
NTSC 485S	Community Involvement	2	0	2
BIOL 485	Senior Project	4	0	4
ENGL 226S	Civilization and Literature 2	4	0	4
	Totals	14	4	14
	TWELFTH QUARTER			
BIOL 490	Seminar in the Life Sciences	4	0	4
CHEM/PHYS	Elective	3	3	4
ENGL 227S	Civilization and Literature 3	4	0	4
	Totals	11	3	12

Bachelor of Science in Natural Science
Area of Concentration: Life Science
Option: Elementary Teacher Certification

A concentration in the life sciences with elementary teacher certification prepares students to be science specialists in the school or classroom. Recent national reports indicate that there is a shortage of qualified teachers with a science background in our elementary schools.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
BIOL 110S	Life Sciences Core Course	4	0	4
MATH 110S	Mathematics in Society	4	0	4
EDUC 110	Teacher as an Inquiring Professional 1	2	0	2
	Totals	14	0	14
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
MATH 120	Elementary Topics in Mathematics 1	5	0	5
HPER	Elective	4	0	4
	Totals	17	0	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
SOCI 110S	Foundations of Social Science	4	0	4
MATH 121	Elementary Topics in Mathematics 2	5	0	5
HUMN	Elective	4	0	4
	Totals	17	0	17
	FOURTH QUARTER			
CHEM 121	Introduction to General Chemistry 1	3	3	4
	Social Science Elective	4	0	4
EDPT	Elective	4	0	4
BIOL 151	Principles of Biology	3	4	5
EDUC 210	Teacher as an Inquiring Professional 2	1	2	2
	Totals	15	9	19
	FIFTH QUARTER			
CHEM 122	Introduction to General Chemistry 2	3	3	4
	Social Science Elective	4	0	4
BIOL 202	Principles of Plant Biology	3	4	5
EDUC 220	Social/Physical/Intell. Growth and Develop.	3	3	3
EDUC 230	Instructional Media	2	0	2
	Totals	15	10	18

	SIXTH QUARTER			
CHEM 200	Introduction to Organic Chemistry 1	3	3	4
BIOL 203	Principles of Animal Biology	4	4	6
HUMN	Elective	4	0	4
EDUC 240	Foundations and Competing Epistemologies 1	2	0	2
	Totals	13	7	16
	SEVENTH QUARTER			
ENGL 225S	Civilization and Literature 1	4	0	4
EDUC 310	Teacher as an Inquiring Professional 3	3	0	3
BIOL	Elective	4	3	5
	Social Science Elective	4	0	4
	Totals	15	3	16
	EIGHTH QUARTER			
ENGL 226S	Civilization and Literature 2	4	0	4
EDUC 320	Interdisciplinary Methods 1	7	0	7
PHIL 320S	Ethics in Public and Private life	4	0	4
	Social Science Elective	4	0	4
	Totals	19	0	19
	NINTH QUARTER			
GEOL	Elective	4	0	4
BIOL	Elective	4	0	4
ENGL 227S	Civilization and Literature 3	4	0	4
EDUC 340	Foundations and Competing Epistemologies 2	2	1	2
	Totals	14	1	14
	TENTH QUARTER			
EDUC 410	Teacher as an Inquiring Professional 4	2	0	2
EDUC 420	Interdisciplinary Teaching Methods 2	7	0	7
EDUC 440	Foundations and Competing Epistemologies 3	2	2	2
BIOL	Elective	3	3	4
	Totals	14	5	15
	ELEVENTH QUARTER			
EDUC 450	Directed Teaching and Seminar	15	0	15
EDUC 460	Senior Action Research	2	0	2
	Totals	17	0	17
	TWELFTH QUARTER			
BIOL	Elective	3	3	4
NTSC 485S	Community Involvement	2	0	2
NTSC 490S	Senior Project/Seminar	4	0	4
CHEM/PHYS	Elective	3	3	4
	Totals	12	6	14

Bachelor of Science in Natural Science

Area of Concentration: Applied Mathematics
Option: Graduate School in Mathematics

A concentration in mathematics with a goal of graduate school or employment in mathematics is an option that allows students to pursue the applications of mathematics. Students pursuing this option should work closely with their advisors in planning a course of study.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
BIOL 110S	Life Sciences Core Course	4	0	4
MATH 110S	Mathematics in Society	4	0	4
MATH 201	Calculus 1	4	0	4
	Totals	16	0	16
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
MATH 202	Calculus 2	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
BIOL 151	Principles of Biology	3	4	5
	Totals	15	4	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 203	Calculus 3	4	0	4
GEOL	Elective	4	1	4
SOCI 110S	Foundations of Social Science	4	0	4
	FOURTH QUARTER			
MATH 204	Calculus 4	4	0	4
ENGL 225S	Civilization and Literature 1	4	0	4
MATH 150	Principles of Statistics	4	0	4
BIOL	Elective	4	3	5
	Totals	16	3	17
	FIFTH QUARTER			
MATH 250	Statistics 1	4	0	4
ENGL 226S	Civilization and Literature 2	4	0	4
EDPT 101	Introduction to Data Processing	3	2	3
GEOL	Elective	4	1	4
	Totals	15	3	15
	SIXTH QUARTER			
MATH 255	Statistics 2	4	0	4
	Social Science/Humanities Elective	4	0	4
ENGL 227S	Civilization and Literature 3	4	0	4
	Social Science/Humanities Elective	4	0	4
	Totals	16	0	16
	SEVENTH QUARTER			
CHEM 121	Introduction to General Chemistry 1	3	3	4
MATH 230	Linear Algebra	5	0	5
	Social Science/Humanities Elective	4	0	4
MATH	Elective	4	0	4
	Totals	15	3	16
	EIGHTH QUARTER			
CHEM 122	Introduction to General Chemistry 2	3	3	4
MATH 301	Ordinary Differential Equations	4	0	4
EDPT	Elective	4	0	4
PHIL 320S	Ethics in Public and Private Life	4	0	4
	Totals	15	3	16
	NINTH QUARTER			
CHEM 200	Introduction to Organic Chemistry 1	3	3	4
MATH 440	Mathematical Models	4	0	4
	Social Science/Humanities Elective	4	0	4
GEOL	Elective	4	1	4
	Totals	15	4	16

	TENTH QUARTER			
MATH 490	Advanced Mathematics Seminar	4	0	4
MATH 485	Senior Project	2	0	2
	Science Elective	3	3	4
MATH	Mathematics Elective	4	0	4
	Totals	13	3	14
	ELEVENTH QUARTER			
NTSC 485S	Community Involvement	2	0	2
NTSC 490S	Senior Seminar	2	0	2
	Social Science/Humanities Elective	4	0	4
MATH	Elective	4	0	4
	Totals	12	0	12
	TWELFTH QUARTER			
EDPT	Elective	4	0	4
MATH	Elective	4	0	4
	Social Science/Humanities Elective	4	0	4
MATH	Elective	4	0	4
	Totals	16	0	16

Bachelor of Science in Natural Science
Area of Concentration: Applied Mathematics
Option: Elementary Teaching Certificate

A concentration in mathematics with elementary teacher certification prepares students to be mathematics specialists or to teach in the elementary school. Nationwide, there is a shortage of elementary teachers with a strong mathematics background.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
BIOL 110S	Life Sciences Core Course	4	0	4
EDUC 100	Teacher as an Inquiring Professional 1	2	0	2
HPER	Physical Education Elective	0	2	1
MATH 110S	Mathematics in Society	4	0	4
	Totals	14	2	15
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
MATH 120	Mathematics for Elementary Teachers 1	5	0	5
PSCI 110S	Physical Science Core Course	4	0	4
HPER 202	Personal and Community Health	4	0	4
	Totals	17	0	17
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 121	Mathematics for Elementary Teachers 2	5	0	5
EDUC 210	Teacher as an Inquiring Professional 2	1	2	2
SOCI 110S	Foundations of Social Science	4	0	4
BIOL	Elective	2	3	3
	Totals	16	5	18
	FOURTH QUARTER			
MATH 130	College Algebra 1	4	0	4
EDUC 220	Social/Physical/Intell. Growth and Develop.	3	0	3
ENGL 225S	Civilization and Literature 1	4	0	4
BIOL 151	Principles of Biology	3	4	5
	Totals	14	4	16

	FIFTH QUARTER			
MATH 131	College Algebra 2	4	0	4
EDUC 230	Instructional Media	2	0	2
ENGL 226S	Civilization and Literature 2	4	0	4
GEOL 201	Physical Geology	3	2	4
SPCH 103	Public Speaking and Human Communication	4	0	4
	Totals	17	2	18
	SIXTH QUARTER			
MATH 132	Trigonometry and Analytic Geometry	4	0	4
EDUC 240	Foundations and Competing Epistemologies 1	2	0	2
ENGL 227S	Civilization and Literature 3	4	0	4
PSYC 173	Human Growth and Development	4	0	4
EDPT 101	Introduction to Data Processing	3	2	3
	Totals	17	2	17
	SEVENTH QUARTER			
MATH 150	Introduction to Statistics	4	0	4
EDUC 340	Foundations and Competing Epistemologies 2	2	0	2
HPER 270	Physical Educ. for the Elementary Classroom	4	0	4
COMA 101	Survey of the Arts	4	0	4
	Totals	14	0	14
	EIGHTH QUARTER			
PHYS/CHEM	Physical Science Elective	3	3	4
MATH	Elective	4	0	4
EDUC 310	Teacher as an Inquiring Professional 3	3	0	3
COMA 102	Survey of the Arts	4	0	4
	Totals	14	3	15
	NINTH QUARTER			
BIOL	Elective	4	0	4
MATH	Elective	4	0	4
EDUC 320	Interdisciplinary Teaching Methods 1	7	0	7
COMA 103	Survey of the Arts	4	0	4
	Totals	19	0	19
	TENTH QUARTER			
PHIL 320S	Ethics in Public and Private Life	4	0	4
	Science Elective	3	3	4
EDUC 420	Interdisciplinary Teaching Methods 2	7	0	7
EDUC 440	Foundations and Competing Epistemologies 3	2	0	2
NTSC 485S	Community Involvement	2	0	2
	Totals	18	3	19
	ELEVENTH QUARTER			
EDUC 450	Directed Teaching and Seminar	15	0	15
NTSC 490S	Senior Seminar	2	0	2
	Totals	17	0	17
	TWELFTH QUARTER			
BIOL	Elective	3	3	4
EDUC 410	Teacher as an Inquiring Professional 4	2	0	2
EDUC 460	Senior Research	2	0	2
MATH	Elective	4	0	4
	Totals	11	3	12

Bachelor of Science in Natural Science
Area of Concentration: Physical Sciences
Option: Chemistry with a Goal of Graduate Work

A concentration in the physical sciences with a goal of graduate school or employment in chemistry prepares students for a career as a professional chemist.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
MATH 110S	Mathematics in Society	4	0	4
CHEM 141	General Chemistry 1	3	3	4
	Totals	15	3	16
	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
CHEM 142	General Chemistry 2	3	3	4
BIOL 110S	Life Sciences Core Course	4	0	4
MATH 201	Calculus 1	4	0	4
	Totals	15	3	16
	THIRD QUARTER			
ENGL 115S	Composition and Literature	4	0	4
MATH 202	Calculus 2	4	0	4
CHEM 143	General Chemistry 3	3	3	4
SOCI 110S	Foundations of Social Science	4	0	4
	Totals	15	3	16
	FOURTH QUARTER			
CHEM 305	Organic Chemistry 1	3	3	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
	Social Science/Humanities Elective	4	0	4
EDPT 101	Introduction to Data Processing	3	2	3
	Totals	13	8	15
	FIFTH QUARTER			
BIOL	Elective	4	3	5
CHEM 306	Organic Chemistry 2	3	3	4
PHYS 202	Physics 2 (Electricity)	3	3	4
	Social Science/Humanities Elective	4	0	4
	Totals	14	9	17
	SIXTH QUARTER			
CHEM 307	Organic Chemistry 3	3	3	4
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
	Social Science/Humanities Elective	4	0	4
GEOL	Elective	4	0	4
	Totals	14	6	16
	SEVENTH QUARTER			
ENGL 225S	Civilization and Literature 1	4	0	4
CHEM 411	Biochemistry	3	3	4
	Foreign Language Elective	4	0	4
GEOL	Elective	4	0	4
	Totals	15	3	16

	EIGHTH QUARTER			
ENGL 226S	Civilization and Literature 2	4	0	4
CHEM 223	Quantitative Analysis	3	6	5
	Social Science/Humanities Elective	4	0	4
	Foreign Language Elective	4	0	4
	Totals	15	6	17
	NINTH QUARTER			
ENGL 227S	Civilization and Literature 3	4	0	4
CHEM 325	Instrumental Analysis	3	6	5
	Foreign Language Elective	4	0	4
	Social Science/Humanities Elective	4	0	4
	Totals	15	6	17
	TENTH QUARTER			
CHEM 495	Senior Project	3	0	3
CHEM 350	Polymer Chemistry	2	2	3
	Foreign Language Elective	4	0	4
BIOL	Elective	3	3	4
	Totals	12	5	14
	ELEVENTH QUARTER			
NTSC 490S	Senior Seminar	4	0	4
NTSC 485S	Community Involvement	2	0	2
CHEM	Elective	3	3	4
	Foreign Language Elective	4	0	4
	Totals	13	3	14
	TWELFTH QUARTER			
CHEM 431	Introduction to Physical Chemistry	3	3	4
PHIL 320S	Ethics in Public and Private Life	4	0	4
	Foreign Language Elective	4	0	4
CHEM/PHYS	Elective	3	3	4
	Totals	14	6	16

Bachelor of Science in Natural Science
Area of Concentration: Physical Sciences
Option: Elementary Teacher Certification

A concentration in the physical sciences with elementary teacher certification prepares students to be science specialists in the elementary school. Recent national reports indicate that there is a shortage of qualified teachers with a science background in our elementary schools.

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Class Hours	Lab Hours	Credit Hours
	FIRST QUARTER			
ENGL 111S	Discourse and Composition	4	0	4
PSCI 110S	Physical Science Core Course	4	0	4
MATH 110S	Mathematics in Society	4	0	4
EDUC 110	Teacher as an Inquiring Professional 1	2	0	2
	Totals	14	0	14

	SECOND QUARTER			
ENGL 112S	Composition and Research	4	0	4
CHEM 121	Introduction to General Chemistry 1	3	3	4
MATH 120	Elementary Topics in Mathematics 1	5	0	5
BIOL 110S	Life Sciences Core Course	4	0	4
	Totals	16	3	17
	THIRD QUARTER			
EDUC 210	Teacher as an Inquiring Professional 2	2	0	2
ENGL 115S	Composition and Literature	4	0	4
SOCI 110S	Foundations of Social Science	4	0	4
MATH 121	Elementary Topics in Mathematics 2	5	0	5
CHEM 122	Introduction to General Chemistry 2	3	3	4
	Totals	18	3	19
	FOURTH QUARTER			
CHEM 200	Introduction to Organic Chemistry 1	3	3	4
EDUC 220	Social/Physical/Intell. Growth and Develop.	3	0	3
MATH 130	College Algebra 1	4	0	4
BIOL	Elective	3	3	4
	Totals	13	6	15
	FIFTH QUARTER			
EDUC 230	Instructional Media	2	0	2
MATH 131	College Algebra 2	4	0	4
EDUC 240	Foundations and Competing Epistemologies 1	2	0	2
	Social Science Elective	4	0	4
BIOL	Elective	3	3	4
	Totals	15	3	16
	SIXTH QUARTER			
MATH 132	Trigonometry and Analytic Geometry	4	0	4
EDPT	Elective	4	0	4
HUMN	Elective	4	0	4
GEOL	Elective	4	0	4
EDUC 340	Foundations and Competing Epistemologies 2	2	0	2
	Totals	18	0	18
	SEVENTH QUARTER			
ENGL 225S	Civilization and Literature 1	4	0	4
PHYS 201	Physics 1 (Mechanics)	3	3	4
EDUC 310	Teacher as an Inquiring Professional 3	3	0	3
GEOL	Elective	4	0	4
	Totals	14	3	15
	EIGHTH QUARTER			
ENGL 226S	Civilization and Literature 2	4	0	4
PHYS 202	Physics 2 (Electricity)	3	3	4
EDUC 320	Interdisciplinary Teaching Methods 1	7	0	7
	Totals	14	3	15
	NINTH QUARTER			
ENGL 227S	Civilization and Literature 3	4	0	4
PHYS 203	Physics 3 (Heat, Light, Sound)	3	3	4
PHYS/CHEM	Physical Science Elective	3	3	4
	Social Science Elective	4	0	4
EDUC 340	Foundations and Competing Epistemologies 2	2	0	2
	Totals	16	6	18
	TENTH QUARTER			
EDUC 420	Interdisciplinary Teaching Methods 2	7	0	7
HUMN	Elective	4	0	4
NTSC 485S	Community Involvement	2	0	2
NTSC 490S	Senior Seminar	4	0	4
	Totals	17	0	17

	ELEVENTH QUARTER			
EDUC 440	Foundations and Competing Epistemologies 3	2	0	2
EDUC 450	Directed Teaching and Seminar	15	0	15
	Totals	17	0	17
	TWELFTH QUARTER			
EDUC 460	Senior Research	2	0	2
	Social Science Elective	4	0	4
HUMN	Elective	4	0	4
CHEM 485	Senior Project	4	0	4
	Totals	14	0	14

Division of Social Science

Mission Statement

The purpose of the Division of Social Science is to provide the general education student a sense of the importance of cultural influences, a sense of history within the scope of changing cultural themes, and a sense of her or his own worth as a human being. These understandings will be refined through a sound curriculum in the behavioral sciences which explains variations in human behavior based on theoretical models, instruction in research methods used by contemporary social scientists, and a special focus on interdisciplinary connections among topical social issues.

Bachelor of Arts Degree with a Major in Social Science

The general social science major requires a fundamental core of social science courses consisting of 36 hours. Four of these hours are in a newly designed offering called Foundations of Social Science which introduces students to the perspectives of all the social sciences represented in our division, as well as to questions of interest to social scientists. This particular course is utilized as a social science portion of the general education core and is required of all four-year, degree-seeking students in the University.

Social science majors must make a minimum "C" grade in all social science courses in order to graduate.

Social Science Core Courses

Course No.	Course Title	Credit Hours
SOCI 110S	Foundations of Social Science	4
PSYC 101	Introduction to Psychology	4
SOCI 101	Introduction to Sociology	4
GOVT 250	Introduction to Political Science	4
ECON 101 or 102	Principles of Economics	4
HIST 111, 112, or 113	American History	4
HIST 201, 202, or 203	Ancient or European History	4
PSYC 273	Human Adjustment	4
GOVT 401	State of the World	4
	Social Science Subtotal	36
	COURSES THAT ALSO APPLY TO FULFILLING GENERAL EDUCATION CORE REQUIREMENTS	
SOCI 485S	Community Involvement	2
SOCI 490S	Senior Seminar	4
	TOTAL HOURS	42

Social science majors are required to take 36 additional hours of social science courses after completing the social science core. Twenty-four of these 36 hours must be at the upper division level, with several options available. Students are advised to spread out their major electives across the division (anthropology, geography, history, political science, psychology, and sociology) and pursue a broad emphasis in social science. With this approach, students acquire a good general grounding in the social sciences. It is suggested that students take 8 to 12 hours from each of the following areas:

- History
- Government
- Economics
- Psychology
- Geology
- Sociology/Anthropology

Students may, however, specialize by taking as many courses as possible in one area of social science such as history, psychology, or sociology. If students choose this option, an attempt will be made by the division chair to assign an advisor in that specialty. Social science majors frequently desire to pursue careers in social work, law, counseling, or civil service. Students expressing these interests are advised accordingly. Baccalaureate candidates who wish to go on to graduate school are required to include Behavioral Statistics as part of their course work.

Social Science Curriculum

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Credit Hours
	FIRST QUARTER	
ENGL 111S	Discourse and Composition	4
SOCI 101	Introduction to Sociology	4
MATH 101	Basic Algebra	4
	Totals	12
	SECOND QUARTER	
ENGL 112S	Composition and Research	4
PSYC 101	Introduction to Psychology	4
MATH 105	Plane Geometry and Algebra	4
HIST 111, HIST 112, HIST 113	American History to 1828 or American History, 1828-1900 or American History Since 1900	4
	Totals	16
	THIRD QUARTER	
ENGL 115S	Composition and Literature	4
SOCI 110S	Foundations of Social Science	4
MATH 110S	Mathematics in Society	4
HIST 201, HIST 202, HIST 203	Ancient History or Medieval and Early Modern Europe or Modern Europe	4
	Totals	16
	FOURTH QUARTER	
ENGL/HIST 225S	Civilization and Literature 1	4
BIOL 110S	Life Sciences Core Course	4
PSYC 273	Human Adjustment	4
ECON 101	Principles of Economics 1	4
	Totals	16
	FIFTH QUARTER	
ENGL/HIST 226S	Civilization and Literature 2	4
PSCI 110S	Physical Science Core Course	4
GOVT 250	Introduction to Political Science	4
	Elective	4
	Totals	16

	SIXTH QUARTER	
ENGL/HIST 227S	Civilization and Literature 3	4
PHIL 320S	Ethics in Public and Private Life	4
	Major Elective	4
	Elective	4
	Totals	16
	SEVENTH QUARTER	
	Major Electives	12
	Elective	4
	Totals	16
	EIGHTH QUARTER	
	Major Electives	12
	Elective	4
	Totals	16
	NINTH QUARTER	
	Major Electives	8
	Electives	8
	Totals	16
	TENTH QUARTER	
SOCI 485S	Community Involvement	2
	Major Electives	8
	Elective	4
	Totals	14
	ELEVENTH QUARTER	
SOCI 490S	Senior Seminar	4
	Major Elective (Behavioral Statistics for some)	4
	Major Electives	8
	Totals	16
	TWELFTH QUARTER	
GOVT 401	State of the World	4
	Major Electives	8
	Elective	4
	Totals	16

Social Science Major with Elementary Education Certification

Students majoring in social science who wish to complete requirements toward certification in elementary education may choose a special program which was designed to meet their needs. In this curriculum, social science majors who wish to teach take courses which cover subject matter which is traditionally taught in the elementary school. In addition, some of the professional education hours may count toward the major as well as toward certification requirements.

The social science/elementary education certification curriculum includes:

- HIST 111, 112, and 113
- Choice (1) of HIST 201, 202, or 203
- Choice (1) of GEOG 125, 201, or 225
- PSYC 310 or 351

Social Science Major with Elementary Certification Curriculum

The following quarterly course sequence is only one suggestion. Actual sequencing of courses may vary based on availability of courses and faculty advising.

Course No.	Course	Credit Hours
	FIRST QUARTER	
ENGL 111S	Discourse and Composition	4
SOCI 101	Introduction to Sociology	4

	FIRST QUARTER (cont'd)	
MATH 110S	Mathematics in Society	4
EDUC 110	The Teacher as an Inquiring Professional 1	2
	Totals	14
	SECOND QUARTER	
ENGL 112S	Composition and Research	4
PSYC 101	Introduction to Psychology	4
HIST 111	American History to 1828	4
EDUC 210	The Teacher as an Inquiring Professional 2	2
PSYC 273	Human Adjustment	4
	Totals	18
	THIRD QUARTER	
ENGL 115S	Composition and Literature	4
SOCI 110S	Foundations of Social Science	4
HIST 201	Ancient History or	4
HIST 202	Medieval and Early Modern Europe or	
HIST 203	Modern Europe	
GEOG 125	World Geography or	4
GEOG 201	Cultural Geography or	
GEOG 225	Physical Geography	
	Totals	16
	FOURTH QUARTER	
HIST 225S	Civilization and Literature 1	4
BIOL 110S	Life Sciences Core Course	4
MATH 120	Elementary Topics in Mathematics 1	5
EDUC 220	Social/Physical/Intellectual Growth and Development	3
	Totals	16
	FIFTH QUARTER	
HIST 226S	Civilization and Literature 2	4
MATH 121	Elementary Topics in Mathematics 2	5
	Economics Elective	4
EDUC 230	Instructional Media, Technology, and Computers	2
ARTS 201	Art in the Elementary Curriculum 1	3
	Totals	18
	SIXTH QUARTER	
HIST 227S	Civilization and Literature 3	4
HIST 112	American History, 1828-1900	4
HIST 113	American History Since 1900	4
GOVT 250	Introduction to Political Science	4
	Totals	16
	SEVENTH QUARTER	
PSYC 310	Child Psychology or	4
PSYC 351	Life Span Developmental Psychology	
MUSI 160	Fundamentals of Music	3
EDUC 240	Foundations and Competing Epistemologies	2
ARTS 202	Art in the Elementary Curriculum 2	3
EDUC 310	The Teacher as an Inquiring Professional 3	3
	Totals	15
	EIGHTH QUARTER	
SOCI 310	Gender Socialization	4
HPER 202	Personal and Community Health	4
MUSI 161	Music for the Classroom Teacher	3
EDUC 320	Interdisciplinary Teaching Methods 1	7
	Totals	18
	NINTH QUARTER	
EDUC 340	Foundations and Competing Epistemologies 2	2
PSCI 110S	Physical Science Core Course	4
PHIL 320S	Ethics in Public and Private Life	4

	NINTH QUARTER (cont'd)	
HPER 270	Physical Education for the Elementary Classroom	4
PSYC 375	Educational Psychology	4
	Totals	18
	TENTH QUARTER	
EDUC 410	The Teacher as an Inquiring Professional 4	2
SOCI 485S	Community Involvement	2
EDUC 420	Interdisciplinary Teaching Methods 2	7
	Social Science Elective	4
	Totals	15
	ELEVENTH QUARTER	
SPCH 103	Public Speaking and Human Communication	4
EDUC 440	Foundations and Competing Epistemologies 3	2
SOCI 490S	Senior Seminar	2
GOVT 401	State of the World	4
	Totals	12
	TWELFTH QUARTER	
EDUC 450	Directed Teaching and Seminar	15
EDUC 460	Senior Action Research	2
	Totals	17

Center for Research and Development in Teaching and Learning

Mission Statement

Shawnee State University is committed to a curriculum that prepares all its graduates to communicate effectively, to think holistically, and to respond ethically. Combining the breadth of the liberal arts and the depth of an academic discipline with the rigor of a professional development program, Shawnee's Center for Research and Development in Teaching and Learning prepares the entry level teacher to meet the dynamic responsibilities of contemporary schools.

Given a complex society where educational activities occur in a variety of settings, however, prospective teachers must be prepared to adapt to sequential careers. Professional understanding and skills will have to be transferred from one task to the next. Through its policies and practices, the Center will model this professional evolutionary process by:

1. celebrating the uniqueness, dignity, and worth of each individual;
2. manifesting the relationship of educational practice to appropriate modes of inquiry, styles of learning, and findings of research;
3. promoting collaborative interactions among appropriate agencies; and
4. demonstrating the dynamic balance of continuity and change in educational practice.

Elementary Education Certification

The vision of teaching which guides the teacher education program at SSU is that of a reflective and inquiring professional. Assuming that teachers continue to develop over time cognitively, technically, and professionally, the program emphasizes dispositions of lifelong learning in addition to the acquisition of specific skills and knowledge.

From the freshman year on, the program's theme of practice-centered inquiry is developed. The combination of the integrated general education core and an in-depth academic major extends the knowledge of a discipline to an understanding of how one learns that discipline. The professional sequence then provides directions for developing instructional strategies and skills to teach the discipline in ways reflective of how children learn. The program provides a well articulated, hierarchical arrangement of field and clinical activities beginning with a set of activities designed to screen students for desired teacher qualities in their freshman year and culminating in student teaching experiences which assess their professional competence and potential.

During their junior and senior years, students engage in the integrative study of core methods. Specified programatic themes provide interrelatedness not only within the blocks but between and among the other courses in the professional sequence. Foundational studies occur throughout the program and, in fact, serve as a major clarifying and culminating activity. Throughout the program, the emphasis is on structured inquiry and reflection.

The elementary education certification program seeks to lead students to a greater mastery of a teaching specialization, an increased understanding of the liberal arts perspective, a wider context within which to make good choices, a research-based

professional education core, and a greater sense of the need to contribute their abilities to the present community through their service and to future communities through their students' lives.

Elementary Education Certification Requirements

Students seeking certification in elementary education must fulfill the following requirements:

1. Complete an academic major with an emphasis in elementary education.
2. Pass the battery of qualifying examinations prior to admission into the certification program.
3. Demonstrate teaching proficiency and professional competencies throughout the field/clinical experiences and student teaching.
4. Pass the Ohio State Board of Education's Teacher Examination.

Course and teaching experiences in area schools will be added to the schedule in the 1991-92 school year, enabling students to be eligible for a certificate to teach in grades 1-6.

Health, Physical Education, and Recreation

The health, physical education, and recreation faculty offer a variety of courses designed to introduce students to psychomotor, cognitive, and affective domains of fitness, leisure, and pre-professional physical education.

Students will develop an understanding of the role physical activity plays in creating a healthy and enjoyable lifestyle. In addition, students will have the opportunity to develop skills related to teaching, coaching, and organization and administering physical education activities.

As Shawnee State University develops, programs which draw upon the resources of other academic areas and the health club will be explored.

Elementary Education Certification Program Curriculum

The specific academic requirements for the baccalaureate degree with elementary education certification vary according to the division in which the academic major resides. Students are advised to refer to the section of the catalog which discusses that division and to schedule an appointment with their assigned faculty advisor.

Individualized and Associate Degree Programs

Associate of Individualized Studies Degree

The associate of individualized studies degree (AIS) at Shawnee State University is designed to allow students the option of formulating their own individualized program of study. The philosophical basis of the degree is predicated upon the assumption that the students may be unable to achieve their personal educational goals through one of the more formalized two-year degree structures offered at Shawnee State. This is especially true for those students interested in concentrating or combining a selected mixture of courses encompassing both academic as well as technical offerings in a manner which may not meet the degree requirements of Shawnee State's associate of arts, associate of applied science, or associate of applied business degrees. Students desiring more information concerning this degree should contact the registrar.

Associate of Arts Degree Program

Shawnee State University offers an associate of arts degree for those students wishing to complete a two-year program of general education with an emphasis in the arts.

Curriculum

I. Core Requirements

A. Composition — 12 hours

ENGL 111S Discourse and Composition ..... 4 cr. hrs.
ENGL 112S Composition and Research ..... 4 cr. hrs.
ENGL 115S Composition and Literature ..... 4 cr. hrs.

B. Natural Sciences — 12 hours

BIOL 110S Life Sciences Core Course ..... 4 cr. hrs.
PSCI 110S Physical Science Core Course ..... 4 cr. hrs.
MATH 110S Mathematics in Society ..... 4 cr. hrs.

C. Social Science — 16 hours

SOCI 110S Foundations of Social Science ..... 4 cr. hrs.
ENGL/HIST 225S, 226S, or 227S Civilization and Literature ..... 4 cr. hrs.
SOCI 101 Introduction to Sociology ..... 4 cr. hrs.
PSYC 101 Introduction to Psychology ..... 4 cr. hrs.

D. Humanities — 16 hours from the following subject areas:

Art
Comparative Arts
English
Humanities
Journalism
Language
Music
Philosophy
Theater

E. Electives — 4 hours from the following subject areas:

Arts and Humanities	Natural Science
Health	Social Science

II. Concentration Area — 30 hours

Selected courses in an area of specialization chosen from the preceding list of humanities subject areas complete the associate of arts degree.

Associate of Science Degree Program

Shawnee State University offers an associate of science degree for those students desiring two years of general education with an emphasis in the sciences and mathematics.

Curriculum

I. Core Requirements

A. Communications — 12 hours

ENGL 111S Discourse and Composition ..... 4 cr. hrs.
ENGL 112S Composition and Research ..... 4 cr. hrs.
ENGL 115S Composition and Literature ..... 4 cr. hrs.

B. Natural Sciences and Mathematics — 24 hours

BIOL 110S Life Sciences Core Course ..... 4 cr. hrs.
PSCI 110S Physical Science Core Course ..... 4 cr. hrs.
MATH 110S Mathematics in Society ..... 4 cr. hrs.
One additional mathematics course MATH 130 or above ..... 4 cr. hrs.
Additional coursework outside the area of concentration ..... 8 cr. hrs.

C. Humanities and Social Science — 24 hours

SOCI 110S Foundations in Social Science ..... 4 cr. hrs.
ENGL/HIST 225S Civilization and Literature 1 ..... 4 cr. hrs.
ENGL/HIST 226S Civilization and Literature 2 ..... 4 cr. hrs.
ENGL/HIST 227S Civilization and Literature 3 ..... 4 cr. hrs.

At least one course in social science from the following subject areas:

Anthropology	History
Economics	Physical Education
Education	Psychology
Geography	Sociology
Government	

At least one course in humanities from the following subject areas:

Arts	Literature
Comparative Arts	Music
English	Philosophy
Humanities	Theater
Journalism	

II. Concentration Area — 30 hours

Selected courses in an area of specialization chosen from the following subject areas complete the associate of science degree.

Life Sciences
Mathematics
Physical Sciences

Course Descriptions

Explanation of Abbreviations

The abbreviations listed are found throughout the course descriptions on the following pages. In addition, it should be noted that some upper level courses are not included on these pages. Students should contact their faculty advisor for further information.

ACCT — Accounting
ADNR — Associate Degree Nursing
AHNR — Allied Health/Nursing
AISM — Automated Information Systems
ANTH — Anthropology
ARTS — Art
BADM — Business Administration
BAFT — Banking and Finance
BAMN — Business Administration
BIOL — Biology
BMNT — Management
BUSL — Business Law
CADD — Computer Aided Drafting and Design
CHEM — Chemistry
COMA — Comparative Arts
DTHY — Dental Hygiene
ECON — Economics
EDPT — Data Processing
EDUC — Education
EMNG — Electromechanical Engineering
EMTA — Paramedic
EMTP — Paramedic
ENDR — Engineering Drawing
ENGL — English
ENGR — Engineering
ESL — English as a Second Language
ETCO — Engineering Technology Core
ETEC — Electrical/Computer Technology
EXST — Secretarial
FINA — Finance
FREN — French
GEOG — Geography
GEOL — Geology
GOVT — Government
HIST — History
HPER — Health, Physical Education, and Recreation
HUMN — Humanities
IMST — Instrumentation Technology
JOUR — Journalism
LING — Linguistics
MATH — Mathematics
MGNT — Management
MILS — Military Science
MLTC — Medical Laboratory Technology
MRKT — Marketing
MUSI — Music
NTSC — Natural Science
OTAT — Occupational Therapy Assistant
PENG — Plastics
PHAR — Pharmacy
PHIL — Philosophy
PHYS — Physics
PSCI — Physical Science
PSYC — Psychology
PTAT — Physical Therapist Assistant
RDLT — Radiologic Technology
REST — Real Estate
RMMT — Retail Management
ROBO — Robotics
RPTT — Respiratory Therapy
SBMT — Small Business Management
SOCI — Sociology
SOSC — Social Science
SPAN — Spanish
SPCH — Speech
THAR — Theater

Preq. — Prerequisite
Su — Summer
F — Fall
W — Winter
Sp — Spring

ACCT 101 Accounting 1 (4) Introduction to fundamental accounting concepts and procedures. The accounting cycle: nature of accounts and techniques of recording, classifying, summarizing, and analyzing basic financial data. Application of fundamental accounting techniques to partnerships and corporations. Accounting for the formation, operation, and dissolution of business enterprises.

ACCT 102 Accounting 2 (4) Application of fundamental accounting techniques for cash, long term investments, notes and accounts, inventory methods, plant and equipment, and liabilities. Introduction to manufacturing operations, cost methods, and management's need of cost data. *Preq. ACCT 101*

ACCT 103 Accounting 3 (4) Reporting and analysis of financial data. Financial statement introduction, analysis, and interpretation to meet the needs of modern management. Introduction to accounting techniques applicable to parent and subsidiary companies and departmental and branch operations. Budgeting as an aid to management and the importance of income tax considerations in financial decisions. *Preq. ACCT 102*

ACCT 104 Tax Accounting (4) Current income tax law and regulations related to business and individual income tax reporting. Practice in preparation of tax returns of businesses and individuals. *Preq. ACCT 102*

ACCT 110 Payroll Records/Accounting (3) A basic course in the maintenance of personnel and payroll records as required by the Fair Labor Standards Act and the various federal and state laws covering the withholding and payment of payroll related taxes. *Preq. ACCT 101*

ACCT 161 Accounting with D. P. Applications I (4) Application of basic accounting procedures to the microcomputer. Emphasizes applications to the IBM microcomputer system. *Preq. ACCT 103, EDPT 101*

ACCT 201 Financial Accounting Principles (4) An introduction to the concepts and principles underlying financial accounting theory. The study includes the accounting equation and its application to the business entity. Procedures and concepts in accumulating and reporting financial information are developed. (Not open to students who have completed ACCT 101 and 102.) *Preq. ECON 101 and 102 and sophomore standing*

ACCT 210 Managerial Accounting (4) A study of the financial information needs of management for decision making. Includes the development of financial statements for manufacturing entities, the study of the components of unit cost, variable costing, and cost-volume-profit analysis. *Preq. ACCT 201*

ACCT 211 Intermediate Accounting 1 (4) A more advanced treatment of accounting theory; determination of income realization and cost expiration. Primary emphasis is on asset accounts in order listed on the balance sheet. *Preq. ACCT 103 or 210*

ACCT 212 Intermediate Accounting 2 (4) Continuation of Intermediate Accounting 1 with emphasis on the balance sheet sections dealing with investments, fixed assets, and liabilities. *Preq. ACCT 211*

ACCT 213 Intermediate Accounting 3 (4) Continuation of ACCT 212 with detailed study of the owner's equity section of the balance sheet and the financial statements presentation and analysis. *Preq. ACCT 212*

ACCT 221 Cost Accounting 1 (4) Introduction to cost accounting systems and methods. Cost concepts, classifications, and measurement techniques in relation to their importance in determination, planning, and control. Job order and process cost accounting methods. *Preq. ACCT 103 or 210*

ACCT 222 Cost Accounting 2 (4) Estimating, planning, and controlling the costs of processes and projects. Standard cost accounting procedures and the analysis of variances. Cost and profit responsibility reporting to management. Uses of cost and profit data in project selection, product pricing, and other functions of management. *Preq. ACCT 221*

ACCT 230 Accounting Projects 1 (3) A special course designed to permit the accounting student to work on special projects under the supervision of an instructor with expertise in the area of the student's project. The special projects course will enable the accounting student to apply the accounting theory as covered in other courses. *Preq. departmental permission (see accounting advisor)*

ACCT 231 Governmental Accounting (4) A basic introduction to the accumulation and use of accounting information in non-profit organizations. General principles applying to budgets and funds are examined rather than specific application. An especially useful course for non-accounting (and accounting) students who will be employed in governmental units where budgeting and accounting are required. *Preq. ACCT 211*

ACCT 241 Auditing (3) Independent audits, professional ethics, legal liability, internal control, auditing standards, work sheet applications and procedures. Concern will be given for audit evidence, the auditor's approach and techniques, summary reports, statistical sampling, and role of advisory services to management. *Preq. ACCT 212 and 222*

ACCT 261 Accounting with D. P. Applications 2 (4) Study of the relationship of data processing to accounting procedures and the use of computers as aids to accounting. *Preq. ACCT 161*

ACCT 330 Industrial Accounting (4) Study of the use of data by management in planning and controlling business operations. Emphasis on the solution of problems confronting management by the use of accounting information in analytical form. Not recommended for Associate Degree accounting majors. *Preq. ACCT 210 or 103 and permission*

ACCT 360 Systems Accounting (4) A course in accounting information systems principles and applications. The application of accounting principles to computerized environment including transaction processing and internal controls, revenue and expenditure cycle applications, file and data management concepts, software systems, and computer security. *Preq. AISM 101 and ACCT 210 or 103 and permission*

ACCT 410 Health Care Accounting/Administration (4) The use of accounting information in planning and controlling the operations of health care organizations. Budgeting and the specialized cost accounting applications of health care organizations are included. *Preq. ACCT 210 or ACCT 103 and permission*

SPECIAL NOTE—ADNR (Associate Degree Nursing): *Only students officially accepted into the nursing program or those with approval of the program director may take the courses with the ADNR prefix. All ADNR courses must be taken in sequence.*

ADNR 101 Nursing 1—Fundamentals 1 (8) Introduction to the nursing process system enabling students to assist individuals to meet daily living needs. Fundamental skills and related scientific principles of nursing are presented. Laboratory practice provides the opportunity to develop beginning skills in both technical and interpersonal aspects of nursing. *5 lec. 9 lab*

ADNR 102 Nursing 2—Fundamentals 2 (8) Development of basic nursing skills is continued. A beginning study of medical-surgical nursing concepts relevant to all age groups is presented. Utilization of all components of the nursing process is introduced. *Preq. 2.0 average or better in courses required for fall quarter of first year; 5 lec. 9 lab*

ADNR 103 Nursing 3—Nursing of Adults and Children 1 (8) Focuses on implementing the nursing process in meeting basic needs of the adult or child experiencing stressors related to safety and security, activity and rest, and sexual role satisfaction. Further development of technical skills is included. *Preq. 2.0 average or better in courses required in winter quarter of first year; 4 lec. 12 lab*

ADNR 201 Nursing 4—OB Maternal/Newborn Nursing (5) Applies the nursing process in the study of the normal aspects of the maternal cycle and the normal newborn infant. Common recurring stressors related to the maternal/newborn cycle are presented. Skills needed to provide family-centered nursing in normal and stress situations are introduced. *6 lec. 12 lab (five-week course)*

ADNR 202 Nursing 5—Mental Health and Illness (5) Presents concepts of mental health and selected deviant emotional and mental responses to stress. Encourages increased self-awareness and development of beginning skills in the use of self. Application of the nursing process in providing nursing care for clients with specific behavior patterns is included. *6 lec. 12 lab (five-week course)*

ADNR 203 Nursing 6—Trends (2) Concerns of nursing—past, present, and future—are explored. Relationship of technical nurse to health professions and community are considered. Future personal development of individual technical nurses is discussed. Legal and ethical implications for nursing practice are examined.

ADNR 204 Nursing 7—Nursing of Adults and Children 2 (10) Applies the nursing process in caring for adults and children experiencing stressors affecting oxygen transport and fluids and electrolytes balance. *6 lec. 12 lab*

ADNR 205 Nursing 8—Nursing of Adults and Children 3 (9) Systematically applies the nursing process in caring for groups of patients. Synthesizes previous knowledge for utilization of the nursing process with adult and child clients experiencing stressors affecting nutrition and elimination. *4 lec. 15 lab*

ADNR 211 Nursing 9—Nursing Seminar (3) A theoretical and practical approach to setting nursing priorities is explored. Transition from student role to graduate role as a member of the health team is discussed.

ADNR 299 Nursing Special Topics (1-3) Individual or small-group study, under the supervision of an instructor, of topics not otherwise available to students.

AHNR 101 Introduction to Health Technologies (2) Introduction to the health professions including history, responsibilities, and ethics. Includes introduction to the Allied Health and Nursing programs at Shawnee State University. *W*

AHNR 102 Medical Terminology (2) Introduction to medical terminology commonly used in health occupations. Emphasis is placed on prefixes, suffixes, and building and analyzing medical terms. *Su F (Also listed as OTAT 105, PTAT 101, and RPTT 100)*

AISM 101 Introduction to Automated Information Systems (4) A study of computer history, systems, concepts, applications, and social implications. Laboratory activities include basic microcomputer operation and introduction to popular software packages.

AISM 103 Computer Applications (4) Hands-on study in the use of microcomputer software packages, including word processing, spreadsheets, data base management, business graphics, data communications and integrated packages. *Preq. AISM 101*

AISM 310 Data Base Management (4) Data base system design, implementation, and access using a relational data base and fourth generation programming language. Laboratory project required. *Preq. AISM 103*

AISM 320 Systems Analysis and Design (4) The study of the systems life cycle as related to information systems in business. Structured analysis and design methods are stressed. Case studies and laboratory projects. *Preq. AISM 103*

AISM 430 Information Systems Development Project (4) The use of microcomputers and applications software to design, construct, and implement a complete operational information system including organizing and loading the data base and use of the system to generate appropriate outputs. *Preq. AISM 310 and 320*

ANTH 101 Introduction to Anthropology (4) An introduction to the biological nature of humans. The roots of primate and hominid evolution, speciation, cultural beginnings, and the processes of evolution in modern humans are examined.

ANTH 250 Principles of Cultural Anthropology (4) How humans have adapted as foragers, hunters, farmers, and industrialists. The diversities of pre-literate and living human societies, social structure, kinship, religion, and ecology are examined in cross-cultural settings.

ANTH 299 Special Topics (1-4) Individual or small-group study, under supervision of instructor, of topics not otherwise available to student. Separate courses repeatable for credit

ANTH 360 Indians of North America (4) Description and analysis of traditional native American cultural areas and impact of modern society on native Americans. *Preq. ANTH 250*

ARTS 100 The Creative Process (4) Team-taught and interdisciplinary. Examines the creative process in all the arts via lectures, demonstrations, visiting artists, and films. Special emphasis is given to artists' statements about themselves and the role of the arts in the development of civilization.

ARTS 101 Studio Foundations 1 (4) An entry-level class focusing on the dynamics of black and white, two-dimensional media. It provides students with methods of seeing, visualizing and expressing themselves on paper. Required of all students with art concentration.

ARTS 102 Studio Foundations 2 (4) An entry-level class which focuses on the use and perception of color. Discussion of various color systems. Color exercises based on theory and historic contexts. Required of all students with art concentration.

ARTS 103 Studio Foundations 3 (4) An entry-level course devoted to the concepts and use of three-dimensional materials used in sculptural terms. Required of all students with art concentration.

ARTS 104 Terminology, Tools, and Materials in Graphic Design (4) Course designed to make students familiar with the "building blocks" used by graphic designers. Hands-on experience with many of the tools used in this profession. Emphasizes the basics of using T-squares, triangles, and technical pens. Demonstrates modern graphic computers. Introduces the many types of materials involved such as rubber cement, acetate, and papers.

ARTS 200 The Creative Process (4) Team-taught. Examines the creative process in the two-dimensional visual arts: painting, drawing, graphics, film, and photography.

ARTS 201 Art in the Elementary Curriculum 1 (3) First of two art courses required of those wishing to become certified as elementary teachers in Ohio. The emphasis of these two courses (201 and 202) is to teach the teacher to become a creative coach or a catalyst in the child's artistic growth. Emphasis is on understanding, facilitating, and integrating art into the elementary curriculum.

ARTS 202 Art in the Elementary Curriculum 2 (3) A continuation of ARTS 201. *Preq. ARTS 201*

ARTS 205 Graphic Design Reproduction Techniques (4) A course designed to familiarize the graphic design student with the various methods of reproducing the finished art work. Discussion of various methods of printing, color separation, and electronic media. Lectures, demonstrations, field trips, and studio work are included.

ARTS 210 Photography 1 (4) An introduction to the art and techniques of photography. Student must provide 35mm camera.

ARTS 211 Photography 2 (4) Continued exploration of photographic techniques. Student must provide 35mm camera. *Preq. ARTS 210*

ARTS 212 Photography 3 (4) A continuation of ARTS 211. Student must provide 35mm camera. *Preq. ARTS 211*

ARTS 215 Photography for the Graphic Designer (4) An introduction to the basic knowledge of photography for the graphic designer, covering the basics of setting up, lighting, and designing photo compositions.

ARTS 221 Painting 1 (4) A focus on individual expression through the use of oil and acrylic painting mediums. *Preq. ARTS 101, 102, or permission*

ARTS 222 Painting 2 (4) A continuation and expansion of ideas developed in ARTS 221. *Preq. ARTS 221*

ARTS 223 Painting 3 (4) Extension of the concepts developed in ARTS 222. *Preq. ARTS 222*

ARTS 231 Ceramics 1 (4) Entry-level course focusing on the use of clay in creating hand built pottery and forms. Basics of glazing work are covered.

ARTS 232 Ceramics 2 (4) Entry-level course focusing on the use of the potter's wheel to create basic thrown forms.

ARTS 233 Ceramics 3 (4) Concentration on the combination of hand built and wheel thrown forms and further study of glaze techniques. *Preq. ARTS 231 and 232*

ARTS 241 Sculpture 1 (4) Course designed to develop the student's ability to conceive and build three-dimensional forms in various media (plaster, clay, wood, and metal). Understanding of shapes and mass, acquaintance with tools, techniques, and materials for expression.

ARTS 242 Sculpture 2 (4) Intermediate sculpture course designed to further a student's skill in three-dimensional work. Technical procedures include advanced woodcarving, clay molding, stone carving, and various direct over armature methods. *Preq. ARTS 241*

ARTS 243 Sculpture 3 (4) Studio problems based on concepts applied to various three-dimensional materials. Advanced sculpture places special emphasis on the development of individual expression in the student's chosen medium. *Preq. ARTS 242*

ARTS 245 Intaglio (4) Introduction to basic intaglio techniques. Emphasis on mastering techniques used to develop personal imagery. *Preq. ARTS 101 and 102*

ARTS 246 Lithography (4) An introduction to basic lithographic technique and printing. Emphasis is placed on mastering techniques used to further personal aesthetic goals. *Preq. ARTS 101 and 102*

ARTS 247 Silk Screen (4) An introduction to the basic silk screen techniques. Emphasis is on mastering techniques used to develop personal imagery. *Preq. ARTS 101 and 102*

ARTS 248 Relief Printing (4) An introductory course employing the range of graphic possibilities in the relief printing process. *Preq. ARTS 101 and 102*

ARTS 251 Typography for the Graphic Designer (4) Studio course beginning with some basic background in type design and theory and working through its use in modern graphic design. Use of transfer lettering, type sizing, and specifications in graphic design will be covered.

ARTS 252 Basic Illustration (4) Studio course beginning with design basics and integrating these basics into illustration techniques for the graphic designer. Black and white graphics and color techniques will be covered. *Preq. ARTS 251*

ARTS 253 Illustration (4) An extension of ARTS 252. The instructor will help the student develop a portfolio. *Preq. ARTS 251 and 252*

ARTS 261 Art History Survey 1 (Ancient through Medieval) (4) Beginning with the art of prehistoric man, covering Egyptian, Ancient Near East, Pre-Greek, Aegean, Greek, Etruscan, Roman, Early Christian, Byzantine, Medieval arts, and architecture in the West. Covering Romanesque, Gothic, and Late Gothic. Slides and lectures.

ARTS 262 Art History Survey 2 (4) Beginning with Italian Renaissance. Continuing through Baroque, Neoclassism, Romanticism, Realism, Impressionism, Post Impressionism, and Twentieth Century painting, sculpture, and architecture.

ARTS 271 Life Drawing 1 (4) Drawing from a model in black and white media. Repeatable for credit—maximum of two quarters. *Preq. ARTS 101 or permission*

ARTS 272 Life Drawing 2 (4) A continuation of ARTS 271. Repeatable for credit—maximum of two quarters. *Preq. ARTS 271*

ARTS 273 Life Drawing 3 (4) A continuation of ARTS 272. Repeatable for credit—maximum of two quarters. *Preq. ARTS 272*

ARTS 275 Drawing Workshop (4) An extension of ARTS 101 and 102. Focus is on developing drawing skills (perspective, composition, etc.) through the use of colored pencils and advanced black and white media. *Preq. ARTS 101 and 102*

ARTS 290 Weaving 1 (4) Introduction to weaving techniques through the construction and use of a simple loom and the use of the table or floor loom.

ARTS 291 Weaving 2 (4) Further examination and use of the four-harness loom Off-loom fibre techniques and the design, construction, and use of hand looms. *Preq. ARTS 290*

ARTS 292 Fabric Design 1 (4) Printing and dyeing fabric as well as applying design to cloth.

ARTS 293 Fabric Design 2 (4) Continuation of ARTS 292. *Preq. ARTS 292*

ARTS 294 Fabric Design 3 (4) Continuation of ARTS 293. *Preq. ARTS 293*

ARTS 299 Topics in Art (1-4) Opportunity for the student to plan and complete a project which meets with the approval of the staff member supervising this arranged course. Repeatable for credit. *Preq. permission of staff*

ARTS 300 The Creative Process (4) Team-taught. Examines the creative process in the three-dimensional visual arts: sculpture, ceramics, architecture, textiles, jewelry, etc.

ARTS 310 Intermediate Photography 1 (4) A continuation of ARTS 212 utilizing more advanced dark room and camera techniques. *Preq. ARTS 212*

ARTS 311 Intermediate Photography 2 (4) Utilizes techniques taught in ARTS 310 with emphasis on artistic growth in the medium. *Preq. ARTS 310*

ARTS 312 Intermediate Photography 3 (4) Utilizes techniques taught in ARTS 311. Individualizes instruction promoting continued artistic growth in the medium. *Preq. ARTS 311*

ARTS 321 Intermediate Painting 1 (4) Oil and acrylic painting used to extend concepts developed in earlier painting courses. Individual concepts highly stressed. *Preq. ARTS 223*

ARTS 322 Intermediate Painting 2 (4) *Preq. ARTS 321*

ARTS 323 Intermediate Painting 3 (4) *Preq. ARTS 322*

ARTS 324 Watercolor 1 (4) Series of courses which focuses on the use of transparent watercolors to extend personal imagery. *Preq. ARTS 101, 102, or permission*

ARTS 325 Watercolor 2 (4) Continuation of ARTS 324. *Preq. ARTS 324*

ARTS 326 Watercolor 3 (4) Continuation of ARTS 325. *Preq. ARTS 325*

ARTS 327 Figure Painting 1 (4) Painting the human figure from a model in oil or acrylic. *Preq. ARTS 223*

ARTS 328 Figure Painting 2 (4) Continuation of ARTS 327. *Preq. ARTS 327*

ARTS 329 Figure Painting 3 (4) A continuation of ARTS 328. Emphasis on individual style and technique as opposed to strictly objective rendering. *Preq. ARTS 328*

ARTS 331 Intermediate Ceramics 1 (4) Intermediate hand built techniques, including use of clay and glazes. A continuation of ARTS 231. *Preq. ARTS 231.*

ARTS 332 Intermediate Ceramics 2 (4) Intermediate throwing techniques, including decorative techniques. *Preq. ARTS 232, 233*

ARTS 334 Raku Ceramics (4) Introduction to the philosophy and techniques of the traditional Japanese ceramic ware called "Raku." *Preq. ARTS 231, 232, 233*

ARTS 335 Porcelain Ceramics (4) For advanced students of the potter's wheel. History, use, and glazing of porcelain. *Preq. permission of staff*

ARTS 336 Glaze Theory and Practice (4) Understanding of the many standard types of ceramic glazes.

ARTS 341 Intermediate Sculpture 1 (4) Techniques of sculptural expression in the "additive" mode: clay, wax, found elements. *Preq. ARTS 243*

ARTS 342 Intermediate Sculpture 2 (4) Experience with low and high relief sculpture in "subtractive" processes: carving and sandblasting in glass, clay, wood, stone, plastics. *Preq. ARTS 341*

ARTS 343 Intermediate Sculpture 3 (4) Relief and small full-round sculpture by casting processes: soft metals, plaster, plastics. *Preq. ARTS 342*

ARTS 345 Intermediate Intaglio (4) A continuation of ARTS 245. Intermediate level techniques in etching and plate production combined with use of printing papers in producing an individualized image. *Preq. ARTS 245*

ARTS 346 Intermediate Lithography (4) A continuation of ARTS 246. Individual styles and techniques in lithography and advances by understanding more advanced methods of register paper ink use. *ARTS 246*

ARTS 347 Intermediate Screen Printing (4) A continuation of ARTS 247. Introduction of new techniques in manual and photo screen print production. *Preq. ARTS 247*

ARTS 360 Ceramic History Survey 1 (4) Prehistoric to modern non-Asian, including Egypt, Pre-Columbian American, Middle East, Africa, Europe, U.S.A.

ARTS 361 Ceramic History Survey 2 (4) Asia, China, Korea, Japan, Vietnam, and India.

ARTS 364 North American Survey (4) A survey of American art (colonial through the present).

ARTS 365 European Survey (4) A survey of European art (Greek through the present).

ARTS 371 Intermediate Life Drawing 1 (4) Working from a model developing a unique personal approach to drawing. Repeatable for credit—maximum of two quarters. *Preq. ARTS 101*

ARTS 372 Intermediate Life Drawing 2 (4) Continuation of ARTS 371. Repeatable for credit—maximum of two quarters. *Preq. ARTS 101*

ARTS 373 Intermediate Life Drawing 3 (4) Continuation of ARTS 372. Repeatable for credit—maximum of two quarters. *Preq. ARTS 101*

ARTS 375 Intermediate Drawing Workshop (4) Development of a personal style of expression in two-dimensional drawing mediums.

ARTS 399 Topics in Art (2-4) Opportunity for the student to plan and complete a project which meets with the approval of the staff member supervising this arranged course. Repeatable for credit. *Preq. permission of staff*

ARTS 400 The Creative Process (4) "Portrait of the Artist." Creative genius observed through biography and autobiography: visual arts, literature, music.

ARTS 410 Advanced Photography 1 (4) Advanced techniques in individualized areas such as lighting, color, and photographing the figure. *Preq. ARTS 312*

ARTS 411 Advanced Photography 2 (4) A continuation of ARTS 410. *Preq. ARTS 410*

ARTS 412 Advanced Photography 3 (4) A continuation of ARTS 411 and presentation of senior portfolio. *Preq. ARTS 411*

ARTS 421 Advanced Painting 1 (4) *Preq. ARTS 326*

ARTS 422 Advanced Painting 2 (4) *Preq. ARTS 421*

ARTS 423 Advanced Painting 3 (4) Focus on helping the artist develop a coherent/cohesive body of work (developing an individual style). *Preq. ARTS 422*

ARTS 424 Advanced Watercolor 1 (4) A continuation of ARTS 326 with more emphasis on individual style and use of more advanced materials such as special papers, etc. *Preq. ARTS 326*

ARTS 425 Advanced Watercolor 2 (4) A continuation of ARTS 424 with a widening dialog of expression based on individual style. Combined with experiments in the medium. *Preq. ARTS 424*

ARTS 426 Advanced Watercolor 3 (4) A continuation of ARTS 425 combined with a presentation of senior portfolio. *Preq. ARTS 425*

ARTS 427 Advanced Figure Painting 1 (4) Painting from a model in oil or acrylic. *Preq. ARTS 329*

ARTS 428 Advanced Figure Painting 2 (4) Painting from a model in oil or acrylic. *Preq. ARTS 427*

ARTS 429 Advanced Figure Painting 3 (4) A continuation of ARTS 428. Considerable progress in a personal style is encouraged with emphasis on using the human form as a basis for advanced work. *Preq. ARTS 428*

ARTS 434 Advanced Raku (4) Continuation of ARTS 334. The Raku philosophy as applied to modern and western forms. *Preq. permission of staff*

ARTS 435 Advanced Porcelain (4) Continuation of ARTS 335. Commercial and self-formulated porcelain applied to larger works. *Preq. permission of staff*

ARTS 436 Advanced Glaze Theory and Practice (4) Continuation of ARTS 336. Compounding and testing of self-designed glazes. *Preq. ARTS 336*

ARTS 441 Advanced Sculpture 1 (4) Techniques of casting in full-round, high-temperature, "harder" metals (bronze, aluminum) using the *cire perdue* process. *Preq. ARTS 343*

ARTS 442 Advanced Sculpture 2 (4) Emphasizes personal expression and the development of style in combinations of the foregoing technical processes. *Preq. ARTS 441*

ARTS 443 Advanced Sculpture 3 (4) Continuation of personal development. Introduction to land art, monument art, environment art, happenings, performance art. *Preq. ARTS 442*

ARTS 499 Topics in Art (2-4) Opportunity for the student to plan and complete a project which meets with the approval of the staff member supervising this arranged course. Repeatable for credit. *Preq. permission of staff*

BADM 485S Community Involvement (Core Course) (2) Community Involvement is an outgrowth of the purposes and objectives of the University. The series of activities integral to the Community Involvement course enhance the education of the student, complement the senior seminar, and communicate to the students their obligation to human beings in need and society at large.

BADM 490S Senior Seminar (Core Course) (4) This course provides an opportunity for students to place their chosen field of study in an interdisciplinary context with intellectual, ethical, and historical perspectives. The seminar focuses on the synthesis and integration of various concepts by applying them to the analysis and solution of problems chosen in the context of their academic disciplines. Oral and written presentations of the seminar paper are required.

BAFT 101 Principles of Banking and Finance (4) Monetary standards, commercial, and central banking. Federal Reserve functions and statements, monetary and income theory, problems of monetary and fiscal stabilization, international payments, and the International Bank and Monetary Fund.

BAFT 102 Introduction to Commercial Lending (4) An overview of the commercial lending function. Four sections cover commercial lending overview, the lending process, portfolio management, and regulation and business development. Specific contents include the commercial loan customer, types of commercial loans, the loan decision process, cost analysis, control and profitability, and the regulatory and legal environment.

BAFT 105 Installment Credit (4) Procedures, forms, government regulations, delinquency and collections, interest rates, background of installment credit.

BAFT 106 Principles of Bank Operations (4) Basic course stating a history of banking, developing of Federal Reserve System; three main duties, safekeeping, transfer of funds, lending. Examination and governmental examination. Field work and problems concerning the operation of commercial bank and savings and loan institutions.

BAFT 202 Home Mortgage Lending (4) A course covering the basic principles of home mortgage lending. A study of the procedures used from the opening to closing of mortgages. A complete study of all necessary forms, rules, and regulations the buyer should know in obtaining a loan.

BAFT 204 Introduction to Investments (4) A study of the various types of investments, including stocks, bonds, mutual funds, commercial paper, options, and commodities. Particular emphasis is given to return and risk in developing investment strategies.

BAMN 201 Business Ethics (4) Examination of the relations beteween economic and moral constraints.

BIOL 099 Fundamental Biology (4) Designed for students with an inadequate background in biological science or those students with no high school biology who plan to enter one of the allied health programs. Material presented is intended to increase familiarity with terms and chemical processes.

BIOL 101 Introduction to Biology (3) An introduction to basic concepts of biology to prepare allied health and nursing students for general anatomy and microbiology.

BIOL 110S Life Sciences Core Course (4) Students have the opportunity to gain familiarity with the characteristics of life on earth, consider physiological and anatomical features of their own body systems, analyze examples of the impact of biologic phenomena on the individual and society, and apply the scientific method. *2 discussion/lab*

BIOL 120 Field Biology (4) An introduction to basic life processes including the structure and function of plants and animals. Laboratory emphasis is on the identification and natural history of local flora and fauna, with special attention to trees and shrubs. *Preq. BIOL 110S or permission*

BIOL 151 Principles of Biology (5) Introduction to principles and concepts of life; emphasis on interrelationships of structural, functional, reproductive, evolutionary and ecological principles related to cells and organisms. *3 lec. 4 lab*

BIOL 162 Human Anatomy and Physiology (5) A general survey of the structure and function of the human body. Not applicable for students requiring BIOL 310 and 320. *Preq. BIOL 101 or 151; 4 lec. 2 lab*

BIOL 202 Principles of Plant Biology (5) Anatomy and morphology of seed plants are related to the functional aspects of photosynthesis, growth, transport, and reproduction. Practical emphasis on plant/man interactions. Brief survey of plant kingdom with focus on life histories and evolutionary relationships. *Preq. BIOL 151; 3 lec. 4 lab*

BIOL 203 Principles of Animal Biology (6) Principles of animal structure, function, development, and behavior. Laboratory survey of major phyla. Designed primarily for majors in the sciences and for preprofessional students. *Preq. BIOL 151; 4 lec. 4 lab*

BIOL 210 Taxonomy of Vascular Plants (4) Principles of classification of extinct and extant seed plants with emphasis on family recognition. Collection, identification, and preservation of seed plants. *Preq. BIOL 110S or permission; 3 lec. 3 lab*

BIOL 212 Forestry Management and Practices (4) Investigation of the development and the existing practices of modern forestry in the U. S. Basic management practices are discussed with laboratory exercises designed to improve forest management skills. *Preq. BIOL 110S and 202; 3 lec. 2 lab*

BIOL 220 Wildlife Management (4) A study of ecological principles of the management of wild animals, both game and non-game species. The economic importance of wildlife and the role of various wildlife agencies are also considered. *Preq. BIOL 110S or permission; 3 lec. 2 lab*

BIOL 260 Neurobiology of Behavior (4) Basic neurology, neurophysiology, and neuropharmacology, with emphasis on how they relate to human behavior. *Preq. BIOL 110S and PSYC 101*

BIOL 271 Field Ornithology (4) A study of the classification, adaptation, and habitat requirements of birds with particular emphasis on Ohio species. Field identification is emphasized in lab. *Preq. BIOL 110S; 3 lec. 3 lab*

BIOL 272 Ohio's Natural Heritage (3) An exploration of the natural history of Ohio. Arranged field trips visit all five of Ohio's physiographic regions. *Preq. BIOL 110S; 2 lec. 3 lab arranged*

BIOL 290 Seminar in the Life Sciences (1-4) Discussion of advanced topics in the life sciences.

BIOL 295 Independent Study (1-4) Independent life science investigation under the direction of a faculty member.

BIOL 302 Dendrology (4) Collection, identification, nomenclature, classification, and ecological relationship of native, introduced, and cultivated woody plants. *2 lec. 4 lab*

BIOL 303 Spring Flora (4) Identification, nomenclature, and classification of spring flowering plants. Origin and evolution of flora in Ohio. *Preq. BIOL 202; 2 lec. 4 lab*

BIOL 310 Principles of Anatomy (5) An introduction to morphology of tissues and systems of the human body. *Preq. BIOL 101 or 151; 4 lec. 3 lab*

BIOL 311 Kinesiology (3) Concentration on skeletal and muscle systems and their functional interplay in the analysis of motion. *Preq. BIOL 310 or 162*

BIOL 315 Histology (5) Study of the structure of cells, tissues, and organ systems and their physiological properties. *Preq. BIOL 310; 4 lec. 2 lab*

BIOL 320 Principles of Physiology (3) An introduction to human systems physiology. *Preq. BIOL 310*

BIOL 321 Human Physiology Lab (2) Laboratory designed to complement BIOL 320. Exercises will illustrate basic physiological principles and techniques, with emphasis on the human. *Preq. or Co-req. BIOL 320; 4 lab*

BIOL 330 Ecology (4) A study of the interrelationships among the many elements in an environment. An historical approach to the concept of evolution, man's impact upon the environment, and common ecological problems faced by society. Labs introduce common and basic ecological techniques. *Preq. BIOL 151; 3 lec. 2 lab*

BIOL 331 Advanced Field Biology (4) Examination of the principles and techniques of biological field investigation. *Preq. BIOL 330; 2 lec. 4 lab*

BIOL 340 Genetics (5) Principles and concepts of genetics as revealed by classical and modern investigation. *Preq. BIOL 151*

BIOL 341 Genetics Lab (2) Experiments and experiences designed to illustrate principles of genetics. *Preq. or Co-req. BIOL 340; 4 lab*

BIOL 350 Microbiology (5) A survey of representative types of microorganisms. Emphasis is placed on cellular structure and physiology, nutritional, and environmental requirements and methods of reproduction. Introduction to the role of pathogenic organisms in diseases. Principles of immunity and resistance to disease. Laboratory includes methods of sterilization, culture staining, and identification. *Preq. BIOL 151; 4 lec. 3 lab*

BIOL 351 Microbiology Lab (1) Additional laboratory experience for the student intending to major in the life sciences. Introduces student to media preparation, collection of lab data, and its graphic interpretation. *Preq. or Co-req. BIOL 350; 3 lab*

BIOL 360 Plant Anatomy and Morphology (5) Detailed study of vascular plant anatomy and morphology considered from an evolutionary viewpoint. Labs involve study of anatomy and morphology of all major vascular plant groups, extinct and extant. *Preq. BIOL 202; 4 lec. 4 lab*

BIOL 365 Phycology (5) An introduction to the taxonomy, morphology, evolution, and ecology of terrestrial, freshwater, and marine algae. Practice in identifying local species. *Preq. BIOL 151; 2 lec. 4 lab*

BIOL 390 Seminar in Life Sciences (1-4) Discussion of advanced topics in life sciences. *Preq. junior or senior standing*

BIOL 395 Special Topics in Biology (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to student. *Preq. BIOL 110S*

BIOL 407 Diagnostic Microbiology (5) Diagnostic procedures for the recovery and identification of medically important bacteria and fungi. Emphasis is on the morphological, cultural, biochemical, and serological characteristics of various pathogenic bacteria and fungi. *Preq. BIOL 350; 3 lec. 6 lab*

BIOL 410 Advanced Human Anatomy (5) A sectional approach to the anatomy of the human body utilizing cadaver dissection. *Preq. BIOL 290; 3 lec. 4 lab*

BIOL 411 Biochemistry (4) General principles of the structural and functional properties of carbohydrates, lipids, nucleic acids, and proteins. *Preq. CHEM 307; 3 lec. 3 lab*

BIOL 432 Cell Biology (5) Current survey of the structure and function of eukaryotic and prokaryotic cells, including recent advances in molecular biology and tissue culture technique. *Preq. BIOL 151 and CHEM 305; 4 lec. 2 lab*

BIOL 450 Immunology (4) Study of antigen and antibodies with emphasis on in vivo and in vitro reactions, including recent information in immunogenetics and monocional strategies. *Preq. BIOL 350*

BIOL 470 Plant Physiology (5) A general introduction including plant/soil, plant/water relationships, mineral nutrition, photosynthesis, and growth integrated with related aspects of biophysics. *Preq. BIOL 202 and 360; 3 lec. 3 lab*

BIOL 485 Senior Project (1-4) Indepth study of a selected topic in the life sciences, culminating in the preparation of a senior paper. *Preq. junior or senior standing*

BIOL 490 Seminar in the Life Sciences (1-4) Discussion of advanced topics in the life sciences. *Preq. junior or senior standing*

BIOL 495 Undergraduate Research (1-4) Independent life science investigation under the direction of a faculty member. *Preq. junior or senior level standing*

BIOL 499 Special Topics in Life Science (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

BMNT 101 Introduction to Business (4) A survey course of the basic functions of American business with an emphasis on the responsibility of business as a vital segment of society. Introduction to the American economic system and the role of profits as the motivating force behind U.S. business activity. (Not open to juniors and seniors.)

BMNT 102 Marketing Concepts (4) A study of marketing fundamentals, consumption, consumer behavior, retailing, wholesaling structures, the functions performed in marketing, marketing policies, and a critical appraisal of the field of marketing.

BMNT 201 Management Concepts (4) An introductory course in management concepts, organization, and principles with a detailed analysis of the management functions of planning, organizing, staffing, directing, and controlling. Communications, decision making, and motivation are emphasized as integral concepts in performing the management functions.

BMNT 202 Personnel Management (4) The philosophy, principles, and methods of personnel management stressing human resource planning, recruiting, selection, placement, training, evaluation, wage and salary administation, and benefit programs.

BMNT 241 Labor Relations (4) Topics related to collective bargaining, contract or labor agreements, workers' compensation laws, apprentice training, and jurisdictional disputes.

BMNT 242 Business Communications (4) Principles and techniques of effective letter writing, letter mechanics, writing of personal business letters including application letters, methods of writing business reports and letters, and internal and external reports as a means of communication.

BUSL 250 Business Law 1 (4) An introduction to the legal environment of business based on the uniform commercial code, including the forms and classifications of law, an overview of the court systems, court procedure, social forces and the law, torts and crimes, and the principles of contract law.

BUSL 260 Business Law 2 (4) A continuation of BUSL 250, including the study of the law covering sales, agency and employment, commercial paper, personal property, and bailments.

BUSL 270 The Legal Environment of Business (4) An examination of the creation and evoluation of principles and rules of law, emphasizing an understanding of the court system and court procedure, the role of administrative agencies and government regulations, and the study of criminal, tort, and the substantive law of contracts.

CADD 101 Introduction to CADD (3) Hands-on experience using AutoCAD software, personal computers, input/pointing devices, and output devices. Several mechanical drawings are output on a plotter. *Co-req. ENDR 101 and EXST 101 or advisor approval.*

CADD 102 Mechanical Drawing with 3-D CADD Applications (3) An introduction to the specialized areas of drafting (plot plans, isometric drawings, 3-D, and menu customization) utilizing the CADD system to introduce three-dimensional drawing. *Preq. CADD 101*

CADD 103 Electronic Schematics and Wiring Diagrams (3) Development of electronic symbols library according to the ANSI Y32.2 standard. Customization of tablet and screen menus which enables the insertion of symbols without keyboard entry. Electronic schematic diagrams and printed circuit boards. *Co-req. CADD 102 or instructor approval*

CADD 104 Advanced Technical Drawing (3) Solutions to practical engineering problems using principles learned in Engineering Drawing 1 and 2. Relationship between points, lines, and surfaces in space, otherwise known as descriptive geometry, is covered. *Preq. CADD 102 and Co-req. ENDR 102 or advisor approval*

CADD 105 Mapping with CADD (3) Topographical maps, a section through a proposed highway route, a subdivision map, plot plans from deed descriptions, highway intersections, and building site maps are drawn. *Co-req. CADD 104 or instructor approval*

CADD 106 Structural Details and Floor Plans (3) Design of a house with each student assuming responsibility for one part of the design based on specifications provided as to size and cost. *Preq. CADD 104*

CADD 107 Piping Drawings (3) Representation of piping in single-line diagrams, Double-line diagrams, isometric diagrams, and in orthographic views of "spools." Design of pipe flange given the size of pipe and the operating pressure. Template layouts for cutting pipe to form turns of various angles. *Preq. CADD 104*

CADD 108 Welding Drawings (3) Welding processes and procedures to the extent necessary to make production weldment drawings and structural weldment drawings. Delineating weld symbols are emphasized. Term project involving the design of products made from structural steel. *Preq. CADD 104*

CADD 109 Casting and Mold Design (3) Completion of a set of plans giving the specifications a foundry would need to manufacture a part. The plans include: a pattern drawing with gates, a core box drawing, the casting drawing of the part, and a machined part drawing. *Preq. CADD 104*

CHEM 101 Fundamental Chemistry (4) A course designed for students with an inadequate background in chemistry or students who have not had high school chemistry. Topics and material presented are intended to increase student's familiarity with terms, chemical processes, and chemical calculations. *Preq. one year of high school algebra or MATH 101*

CHEM 121 Introduction to General Chemistry 1 (4) An introductory course in fundamental concepts of chemistry for nonscience majors. Topics include atomic structure, compound formation, chemical equations, stoichiometry, inorganic nonmenclature, and gas laws. Credit allowed for only one of these introductory courses: CHEM 101, 121, and 141. Recommended for students requiring only one year of chemistry. *Preq. high school chemistry or CHEM 101 and placement in MATH 105 or higher; 3 lec. 3 lab*

CHEM 122 Introduction to General Chemistry 2 (4) Properties of solutions, reactions in solution, acids and bases, equilibrium oxidation-reduction reactions, and nuclear chemistry. Credit not allowed for both CHEM 122 and 142. *Preq. CHEM 121 or permission; 3 lec. 3 lab*

CHEM 141 General Chemistry 1 (4) An introduction to chemistry through the study of fundamental chemical concepts, atomic structure, periodic classification, mole concept, stoichiometry with problem solving, chemical bonding, and nuclear chemistry. Credit not allowed for both CHEM 121 and 141. *Preq. one year of high school chemistry or CHEM 122 and placement in MATH 130; 3 lec. 3 lab*

CHEM 142 General Chemistry 2 (4) An introduction to states of matter, chemical reactions in water solutions, properties of liquids and solutions, and nuclear chemistry. Credit not allowed for both CHEM 122 and 142. *3 lec. 3 lab*

CHEM 143 General Chemistry 3 (4) An introduction to chemical thermodynamics and kinetics, acid-base theory, ionic equilibria, electrochemistry, coordination compounds, and qualitative analysis. *Preq. CHEM 142; 3 lec. 3 lab*

CHEM 200 Introduction to Organic Chemistry 1 (4) A course in fundamental organic chemistry. The study of the major functional groups: saturated and unsaturated hydrocarbons, alcohols and ethers, aldehydes and ketones, carboxylic acids, amines, carboxylic acid derivatives. The organic chemistry of carbohydrates, lipids, and proteins is covered. *Preq. CHEM 121 or 141; 3 lec. 3 lab*

CHEM 201 Introduction to Organic Chemistry 2 (4) Continuation of CHEM 201. Topics include conformational analysis, reaction mechanism, spectroscopy, polymers. *Preq. CHEM 200; 3 lec. 3 lab*

CHEM 223 Quantitative Analysis (5) An introduction to methods of chemical analysis by classical, gravimetric, and volumetric techniques. Colorimetry and potentiometry with emphasis on solution equilibria and stoichiometric calculations. *Preq. CHEM 143; 3 lec. 6 lab*

CHEM 290 Seminar in Chemistry (1-4) Discussion of advanced topics in chemistry.

CHEM 295 Independent Study (1-4) Independent chemistry investigation under the direction of a faculty member.

CHEM 299 Special Topics in Chemistry (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to the student.

CHEM 305 Organic Chemistry 1 (4) A course for science majors wishing to acquire a sound knowledge of classical and modern organic chemistry. Credit not allowed for both CHEM 201 and 305. *Preq. or Co-req. CHEM 143; 3 lec. 3 lab*

CHEM 306 Organic Chemistry 2 (4) Continuation of CHEM 305. Credit not allowed for both CHEM 202 and 306. *Preq. CHEM 305; 3 lec. 3 lab*

CHEM 307 Organic Chemistry 3 (4) Continuation of CHEM 305 and 306. *Preq. CHEM 306; 3 lec. 3 lab*

CHEM 325 Instrumental Analysis (5) An introduction to methods of chemical analysis by spectrophotometric, spectrographic, chromatographic, and electrometric techniques. *Preq. CHEM 223; 3 lec. 6 lab*

CHEM 331 Introduction to Physical Chemistry (4) Survey of thermodynamics, kinetics, gas laws, quantum mechanics, and spectroscopy. *Preq. CHEM 223, MATH 203, PHYS 313*

CHEM 350 Polymer Chemistry (3) The synthesis and the physical and chemical characterization of polymers. Thermodynamics and kinetics of polymerization, molecular weight determination and solution properties. *Preq. CHEM 202 or CHEM 307; Preq. or Co-req. CHEM 331 or PHYS 313 2; lec. 2 lab*

CHEM 390 Seminar in Chemistry (1-4) Discussion of advanced topics in chemistry.

CHEM 411 Biochemistry (4) General principles of structure, function, physical and chemical properties of carbohydrates, lipids, nucleic acids, and proteins. *Preq. CHEM 307; 3 lec. 3 lab*

CHEM 485 Senior Project (1-4; maximum 4) In-depth study of a selected topic in chemistry, culminating in the preparation of a senior paper. *Preq. junior or senior standing and permission of instructor*

CHEM 490 Seminar in Chemistry (1-4; maximum 4) Study of a specific advanced topic in chemistry. *Preq. junior or senior standing and permission of instructor*

CHEM 495 Undergraduate Research (1-4; maximum 9) Independent chemistry investigation under the direction of a faculty member. A written report is required. *Preq. junior or senior standing, 2.75 grade point average in chemistry, and permission of instructor*

CHEM 499 Special Topics in Chemistry (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

COMA 101 Survey of the Arts (4) Analysis of form, media, and content of major arts stressing interrelationships of architecture, dramatic art, music, literature, and painting through recognition of common art factors. Use of tapes, slides, and recordings.

COMA 102 Survey of the Arts (4) A continuation of COMA 101.

COMA 103 Survey of the Arts (4) A continuation of COMA 102.

DTHY 101 Radiology 1 (2) Didactic instruction in dental radiology. Topics include: characteristics of radiation, components and functions of the x-ray machine, and x-ray production. Emphasis on exposure factors and their effects on radiographs, effects of radiation exposure, and radiation protection. Dental x-ray films and film processing are also covered.

DTHY 102 General and Oral Histology and Embryology (3) Study of the development of tissues and structures from a histological and embryological basis. Emphasis on development of tissues of the teeth and the periodontal supporting structures.

DTHY 111 Oral Anatomy 1 (3) A study of tooth form, function, and occlusion, including the supporting tissues of the teeth and oral environment. Emphasis on dental vocabulary, terminology, and the relationship of the permanent and deciduous dentition to clinical dental hygiene.

DTHY 112 Oral Anatomy 2 (2) Detailed study of the anatomy of the head and neck. Topics include facial bones, muscles of the head and neck, nerve supply, and blood supply. Detailed study of the topographical and functional anatomy of the oral cavity and pharynx.

DTHY 113 Radiology 2 (2) A continuation of DTHY 101. Emphasis on radiographic technique through lecture and lab experiences. Lab experiences include bisection of the angle and paralleling techniques as well as extra-oral radiographs on training models. Students process and mount film, as well as learn to recognize processing and technical errors, normal anatomical landmarks, and pathology.

DTHY 121 Clinical Dental Hygiene 1 (4) Introduction to the profession and history of dental hygiene. The principles of preventive dentistry regarding etiology of deposits, caries, inflammation, and oral physiotherapy methods. Aspetic techniques are outlined. Basic instrumentation principles are demonstrated on typodonts followed by demonstration on partners.

DTHY 122 Clinical Dental Hyiene 2 (4) A continuation of DTHY 121. Clinical skills include intra/extra oral examinations, dental/periodontal charting, scaling and polishing techniques, periodontal probing, and fluoride techniques. Skills are transferred from typodont to partner.

DTHY 123 Clinical Dental Hygiene 3 (4) A continuation of DTHY 122. Techniques for dental hygiene care are performed in clinical patient treatment. Advanced skills include desensitization techniques, instrument sharpening, sequencing and planning patient treatment, and methods of motivating to prevent oral disease.

DTHY 201 General and Oral Pathology (3) An introduction to pathology. Discussion of processes of inflammation, necrosis, retrograde changes, and wound healing. Etiologies, diagnosis, treatment, and prognosis of oral lesions. Pathology of diseases affecting teeth and their supporting structures.

DTHY 202 Periodontics (3) A study of the periodontal supporting structures of the teeth. Etiologies and classifications of periodontal disease are discussed. The treatment of periodontal disease is discussed in relation to the etiologies.

DTHY 203 Dental Materials (3) Didactic and laboratory instruction on the physical properties of materials used in dentistry. Basic principles of the preparation and use of certain restorative materials, impression materials, and laboratory procedures, including chemical sealants, preliminary impressions, and study models.

DTHY 204 Pharmacology and Anesthesiology (3) Drugs and anesthetics used and encountered in dentistry. Discussion of the origin, physical and chemical properties, effects on body systems, indications and contraindications for use, and methods of administration and elimination.

DTHY 205 Dental Health Education (3) Analysis of goals for the development of dental health education programs. Major emphasis is on preparation and use of lesson plans and instructional materials for teaching groups. Involves classroom instruction of dental health in public schools.

DTHY 206 Public Health (3) An introduction to the broad field of public health with emphasis on public dental health. A basic approach for designing and implementing a public dental health program to promote dental health and prevent dental diseases in the community.

DTHY 224 Clinical Dental Hygiene 4 (5) A continuation of DTHY 123. Techniques and procedures of dental hygiene care and services performed in the clinic atmosphere as they would be in practice. Lecture topics concern medical emergencies in the dental office.

DTHY 225 Clinical Dental Hygiene 5/Applied Nutrition (5) A continuation of DTHY 224. Dental hygiene clinical practice to include applied nutrition as it relates to current concepts in preventive dentistry for the dental hygienist.

DTHY 226 Clinical Dental Hygiene 6/Jurisprudence and Career Management (5) A continuation of DTHY 225 with emphasis on prevention and trial state board patients. Ethics, jurisprudence, state laws, malpractice, and professional organizations are discussed as they relate to the dental hygiene profession. Career placement is investigated.

DTHY 227 Clinical Dental Hygiene 7/Special Needs (5) A continuation of DTHY 226. Complete dental hygiene care involving the use of advanced skills and techniques learned in previous dental hygiene courses. Special needs patients are discussed. Selected topics through seminars and lectures are presented to aid professional growth.

ECON 101 Principles of Economics 1 (4) An introduction to the elementary principles of macroeconomics. Includes a study of the economic system and an analysis of national income concepts, fiscal and monetary policies, and economic growth.

ECON 102 Principles of Economics 2 (4) An elementary analysis of the principles of microeconomics. Includes a study of consumer behavior, different types of products and resource markets, and an analysis of certain economic problems.

ECON 301 Intermediate Microeconomics (4) A study of the economic theories of the consumer and the firm. Analysis of price and output behavior under various product and market structures and resource market analysis. *Preq. ECON 101 and 102*

ECON 325 Economic History of the U.S. (4) Analysis of the changes in the economic structure and development of the U.S. from colonial days to the present. Includes a survey of American economic life and the role of entrepreneurship in economic development. *Preq. ECON 101 and 102*

ECON 411 Comparative Economic Systems (4) An analysis of the different economic systems: capitalism, socialism, communism, and mixed systems. Survey of the differences and similarities of the economic institutions among these systems. *Preq. ECON 101 and 102*

ECON 499 Special Topics in Economics (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students. Repeatable for credit. *Preq. ECON 101 and 102*

EDPT 101 Introduction to Data Processing (3) Historical background, computer applications, social implications, data representation numbering systems, file organization, flow charting, and a survey of programming languages.

EDPT 103 BASIC Language 1 (3) An introduction to data processing and the programming language BASIC. No prior experience is required. Some knowledge of basic algebra is necessary. Practical examples and exercises teach the student the capabilities of BASIC and how to write functional BASIC program. *Preq. EDPT 101 except for baccalaureate students in School of Engineering*

EDPT 104 BASIC Language 2 (3) Advanced BASIC programming techniques. Students learn how to optimize file creation and access. *Sp; Preq. EDPT 103*

EDPT 105 COBOL Programming 1 (4) In-depth study of the COBOL language. Use of files on disks, print routines, terminals, and documentation. Many problems are assigned to move theory into practice. *W; Preq. EDPT 101*

EDPT 106 COBOL Programming 2 (4) A deeper study of COBOL. More complex problems using tables and various utility programs available from the manufacturer; new instructions and different ways of using them. *Sp; Preq. EDPT 105*

EDPT 201 C Language (3) Introduction to the C language instructions and coding techniques with programs written using auxiliary storage, interrupt processing, and table processing. All programs are tested and thoroughly documented.

EDPT 202 Computer Operations Management (3) Personnel policies, computer management procedures, equipment acquisition, and management of resources related to data processing. Basic management principles to effectively manage a computer system, computer personnel, and resources. *W; Preq. two programming languages and sophomore standing*

EDPT 203 Business Computer Projects (4) Programs are assigned on an individual basis. Instruction on use of manuals to determine correct use of pertinent commands and their limitations. *W; Preq. sophomore standing*

EDPT 204 Microcomputer Applications (4) Students work in groups to do a complete systems proposal: design, testing, debugging, and implementation. *Preq. two programming languages and sophomore standing*

EDPT 205 Business Data Systems & Communications (3) A study of man/machine interactions through teleprocessing and telecommunication systems. Emphasis on current time-sharing languages, data bases, and management information systems (MIS). Problem solving techniques requiring the use of terminals. Laboratory project. *Sp; Preq. one computer language and sophomore standing*

EDPT 206 Fortran IV (4) A basic course in FORTRAN, including FORTRAN arithmetic, formats, loops, arrays, program flow charting, testing, debugging, and documentation. The student is assigned several programs to solve statistical mathematics and business problems. *F; Preq. one computer language*

EDPT 207 PASCAL Language (4) An introduction to the programming language PASCAL. Some knowledge of basic algebra is helpful. Use of Input/Output statements, loops, subprograms, arrays, and files. *Preq. one computer language*

EDPT 208 RPG II Language (4) A computer language normally used to produce reports for management. All rules of programming apply, but various forms are required to produce output. *F; Preq. sophomore standing*

EDUC 101 Introduction to Education (4) An introductory study of the broad and complex field of education. Emphasis on professional and personal requirements for successful teaching.

EDUC 110 The Teacher as an Inquiring Professional 1: Strategies for Observation and Reflection (2) An introduction to an explicit conception of teaching. The cycle of plan/act/observe/reflect is developed. An introduction to norms, conventions, expectations, and rewards for teachers. The distinctive nature, scope, sequence, and demands of SSU's program are outlined.

EDUC 210 The Teacher as an Inquiring Professional 2: Strategies for Action Research (2) Continuation of the plan/act/observe/reflect cycle. Basic elements of action research are introduced by having students validate observations and data collection with one another in inquiry teams. *Preq. EDUC 110*

EDUC 220 Social/Physical/Intellectual Growth and Development (3) Application of the action research cycle in assessing student development using diagnostic measures parallel to those employed in assessing development in elementary-age students. Students also examine how they approach tasks through Fuller's Levels of Concern model. *Preq. EDUC 110*

EDUC 230 Instructional Media, Technology, and Computers (2) A study of how media can be used both instructionally and to observe and reflect on practice. Operation of media, production of instructional aids, and selection of media appropriate to particular instructional strategies and objectives.

EDUC 240 Foundations and Competing Epistemologies 1 (2) The first of three courses integrating the social, philosophical, and historical foundations. Focusing on the competing epistemologies introduced in EDUC 110, the course demonstrates the implications of specific perspectives from an historical perspective and in terms of influences on the broader social context and mission of schools. *Preq. EDUC 110*

EDUC 295 Independent Study (1-4) Exploration of special topics not included in the standard curriculum.

EDUC 310 The Teacher as an Inquiring Professional 3: Measurement, Diagnosis, and Evaluation (3) The shift here is from assessment of individual pupils to analyses of individuals and groups in specific cultural contexts. Two broad themes are addressed: How dimensions of human intelligence can be assessed and how different cultures influence appropriate academic behaviors. *Preq. admission to teacher education program*

EDUC 320 Interdisciplinary Teaching Methods 1: Language Arts, Math, and Science (7) Incorporation of the general knowledge base for teaching. Problem solving and inquiry are emphasized in science, mathematics, and language arts. Content-specific and general methods, patterns of instruction, and diagnostic techniques are used in a laboratory context and practiced in field experiences. Inquiry and reflective activities focus planning and action on the moral and ethical intentions and consequences of classroom thinking, actions, and conditions. *Preq. admission to teacher education program*

EDUC 340 Foundations and Competing Epistemologies 2 (2) This second course examines the moral and ethical dimensions of teaching. Logical analysis of instructional plans and microteaching experiences are the major tool for inquiry. *Preq. EDUC 240*

EDUC 410 The Teacher as an Inquiring Professional IV: Problem Solving and Critical Thinking (2) Practice in decision-making strategies and the application of problem analyses to diagnose problems in teaching and schooling. Techniques useful to the translation and consumption of research findings into the everyday practice of schooling. Research report writing. *Preq. EDUC 310*

EDUC 420 Interdisciplinary Teaching Methods 2: Reading and Social Science (7) Discussion of the knowledge base from effective teaching to effective schooling. Exploration of components of classroom ecology: management/discipline models, social organization, and cultural diversity. Laboratory simulations and field experiences in elementary schools. *Preq. EDUC 320*

EDUC 440 Foundations and Competing Epistemologies 3 (2) Taken after student teaching, this third course provides an interpretive framework for students' total professional experience. Understanding of the variables of effective teaching, the hidden curriculum, the community's expectations, and the role of the school in the social order. *Preq. EDUC 340*

EDUC 450 Directed Teaching and Seminar (15) A cumulative experience of ten weeks in area K-12 schools. Culmination of data collection for action research project. Documentation, in portfolio fashion, of the nature of the student teaching experience. Weekly proseminar which is both topical and process-oriented. Student teaching must be completed prior to participation in EDUC 440.

EDUC 460 Senior Action Research (2) Seniors engage reflectively in dialogue, discussion, and critique of their own and others' research projects. The seminar is guided by faculty members who have mentored student researchers as well as teachers from the field who have been co-researchers in the projects. *Preq. EDUC 450*

EDUC 495 Special Topics (2-4) Analysis of current educational issues or trends.

EMNG 096 Electro Concepts (4) A course in the concepts of electricity and electronics. Introduction to concepts of Ohm's Law, resistance, capacitance, inductance, power, and energy. Study of reactance, impedance, phasors, and power factors. DC and AC rotating machines are surveyed. Elementary solid state electronics. This course is not for electromechanical majors and is not applicable toward an associate degree.

EMNG 105 Electromechanical Drawing (2) The study of mechanical drawing of both electrical and electronic circuits and components using electrical and electronic symbols. Drawing assignments include power distribution, logic diagrams, printed circuits, and schematics and pictorial views. *Preq. ENDR 101 or advisor approval*

EMNG 111 Electrical Fundamentals 1 (4) An introductory course in the study of electricity. Basic definitions of energy and electricity are introduced which lead to studies of resistance, Ohm's Law, series and parallel circuits, magnetism, simple meters, inductance, and capacitance. Direct current effects. *Co-req. MATH 130*

EMNG 112 Electrical Fundamentals 2 (4) Simple inductance-resistance and capacitance-resistance transient circuits, studies of alternating current fundamentals, phasor algebra, AC circuit analysis, power factor, and resonance. *Preq. EMNG 111 or advisor approval*

EMNG 115 Electromechanical Devices (3) An introduction to devices where both electrical and mechanical principles are utilized. Includes DC motors and generators, 3-phase circuits, transformers, induction motors, alternators, and synchronous motors. *Co-req. EMNG 112 or advisor approval*

EMNG 121 Electronics 1 (3) A modern introduction to discrete, bipolar solid state electronic devices and basic electronic circuits, including small signal amplifiers, transistor biasing, equivalent circuits, electronic unregulated DC power supplies, and special solid state devices. *Preq. EMNG 112 or advisor approval*

EMNG 122 Electronics 2 (3) Continuation of EMNG 121. Frequency response, decibels, cascaded amplifiers, feedback amplifiers, power amplifiers, field effect amplifiers, unijunction transistors, control circuits, four-layer devices, and regulated DC power supplies. *Preq. EMNG 121 or advisor approval*

EMNG 201 Introduction to Electromechanical Systems (3) An introduction to systems which use both electrical and mechanical principles. Thermal, hydraulic, pneumatic, vacuum, magnetic, and optic systems are utilized to stress the coordinated combination of previously learned concepts. *Preq. EMNG 112, 115, 121, and Co-req. EMNG 122 or advisor approval*

EMNG 202 Statics and Strength of Materials (3) A study of the principles of rpm, torque, and displacement in a wide variety of gearing applications along with the analysis of forces or loads acting upon the system. Analysis of stress and strain, strength of materials, friction, torsion, and moment of inertia. *Preq. MATH 132 and PHYS 201 or 301 or advisor approval*

EMNG 204 Control Devices (3) A study of control devices responding to a variety of inputs, including temperature changes, pressure variations, rates of flow, potentials generated by light energy, moisture conditions, or any one of a number of physical conditions. Programmable controller languages are also studied. *Co-req. EMNG 122 or advisor approval*

EMNG 206 Hydraulics and Pneumatics (3) A study of the functions of various basic components of hydraulic and pneumatic sub-systems and methods of combining them to build various systems. Emphasis on the use of hydraulics and pneumatics for power transmission and for control purposes. *Preq. MATH 130 or advisor approval*

EMNG 208 Automatic Control Systems (3) A study of complete electromechanical open and closed loop analog and digital systems. The microcomputer and programmable controller are used to interface input and output transducers to build complete automatic control systems. Emphasis on the understanding of interfacing feedback signals to process control. *Preq. EMNG 122, 204, and Co-req. EMNG 206, or advisor approval*

EMNG 209 Robotics (3) A survey course in Robotics. The course studies types of industrial robots, control schemes, and applications. *Preq. EMNG 122 or ETEC 211 and EMNG 206 or ETCO 310 or advisor approval*

EMNG 211 Electronic Logic Circuits 1 (3) An introduction to solid state, integrated electronic logic. Practical applications of Boolean algebra, logic gates, binary pulse circuits, number systems, and computer arithmetic. *Preq. EMNG 121 or advisor approval*

EMNG 212 Electronic Logic Circuits 2 (3) Continuation of EMNG 211. Integrated circuit applications which include combinational and sequential logic, printed circuits, counters, registers, decoders, signal converters, and microprocessor-based microcomputers. *Preq. EMNG 122, 211, or advisor approval*

EMNG 215 Electromechanical Design (3) Designed to provide the time and opportunity for students to work on the design, fabrication, assembly, and testing of electromechanical devices or systems. Promotes independent study, initiative, and creativity by requiring the student to develop the design with minimal staff supervision. *Preq. EMNG 115, 122, 201, and Co-req. EMNG 212, or advisor approval*

EMNG 220 Electromechanical Systems (3) Encompasses all of the principles which have been considered previously in the program. Electromechanical systems are analyzed in detail. Thorough understanding of the applied principles. *Preq. EMNG 115, 122, 201, 206, 208, and 211, or advisor approval*

EMTA 101 First Aid and CPR (2) Includes the American Red Cross Multimedia First Aid Course related to bleeding control, obstructed airway management, splinting and bandaging techniques, and other emergency care procedures. Also includes the American Red Cross Adult CPR course. American Red Cross Multimedia First Aid certification and Red Cross Adult CPR certification are granted upon successful completion of course.

EMTA 102 CPR (1) Techniques of cardiopulmonary resuscitation. American Red Cross or American Heart Association CPR certification is granted upon successful completion of this course.

EMTA 110 Emergency Victim Care (10) The Ohio Basic Emergency Medical Technician training course which provides the framework upon which all other skills and knowledge are developed. Principles of emergency care, CPR, vital signs and patient handling techniques are included.

EMTP 101 Paramedic Skills 1 (5) Expansion of basic skills and knowledge gained in the Basic EMTA course in the areas of shock and fluid therapy, anatomy and physiology, patient assessment, and respiratory emergencies. Advanced skills include IV therapy, esophageal intubation and MAST. Includes DOT Paramedic Program Division 1 (Prehospital Environment, Sections 1-4) and Division 2 (Preparatory, Sections 1-5) and the administration of subcutaneous epinephrine for allergic reactions to insect stings.

EMTP 102 Paramedic Skills 2 (3) Emphasizes gaining access to, rescuing, and transporting a patient. Recognition and control of certain hazards, such as explosive material, downed electrical wires, toxic gases, and radiation. Use of radio equipment, protocols, and procedures for the transfer of information to the supervising physician. Includes DOT Paramedic Program Division 1 (Prehospital Environment, Sections 5-6).

EMTP 103 Paramedic Skills 3 (10) Intensive emergency coronary care emphasis. Topics include pathophysiology, symptomalogy, and emergency treatment of coronary artery disease, MI, angina pectoris, congestive heart failure, and other cardiac emergencies. Introduction to the general groups of drugs and the classification of each. Therapeutic effects, indications, contraindications, correct dosage, and side effects of specific drugs used in cardiac emergencies. Includes DOT Paramedic Program Division 2 (Preparatory, Section 5), Division 4 (Medical, Sections 1 and 2), and the American Heart Association Advanced Cardiac Life Support Provider course.

EMTP 104 Paramedic Skills 4 (10) Builds advanced skills and knowledge in the areas of medical emergencies, trauma emergencies, obstetric/gynecologic emergencies, pediatrics, and neonatal transport. Emphasis placed on clinical and on-squad experience. Includes DOT Paramedic Program Division 3 (Trauma), Division 4 (Medical, Sections 3-11), Division 5 (OB/Gyn/Neonatal), and Division 6 (Behavioral).

ENDR 101 Engineering Drawing 1 (3) A basic course for students who have had little or no experience in engineering drawing. Develops fundamental principles through actual experience in both freehand sketching and scaled machine drawings. Includes orthographic, multiview drawings, geometric constructions, dimensioning practice, sectional views, and auxiliary views.

ENDR 102 Engineering Drawing 2 (3) Application of basic principles to solve practical problems encountered in engineering. Applied descriptive geometry is used to determine the relationship between points, lines, and surfaces in space. Also includes revolutions, vector geometry, and intersections of lines and surfaces. *Preq. ENDR 101*

ENDR 105 Blueprint Drawing (2) Fundamentals of blueprints and engineering drawings and in the reading and interpretation of drawings. Engineering drawings and blueprints, mechanical drawings, lines used on drawings, scales, dimensions, fits and finish marks, surface roughness and lay, threads, rivets, tapers, and examples of blueprint reading.

ENGLISH PREREQUISITES: The communication sequence in the General Education Core is prerequisite for advanced courses in English/Humanities.

ENGL 095 Basic Writing 1: Mechanics (4) Provides intensive practice with the basics of written expression: grammar, punctuation, usage, spelling, and sentence structure. Also focuses on basic summary and paragraph writing.

ENGL 097 Reading Development 1 (4) Methods of improving students' reading comprehension and critical interpretation of college-level material. Areas of concentration include reading speed, art and skills of efficient reading, basic reading skills (e.g., phonics, sentence sense, and morphemes), vocabulary building, and sentence and paragraph analysis.

ENGL 098 Reading Development 2 (4) A continuation of ENGL 097.

ENGL 099 Basic Writing 2: Paragraphs and Essays (4) Provides practice in the writing and revising of paragraphs and short essays. Standard rhetorical patterns for paragraphs and essays are required with an emphasis on the correct use of standard English.

ENGL 100 College Reading and Learning Strategies (4) Provides techniques for making studying easier and more efficient. Topics include notetaking, learning from textbooks, managing time, understanding visual materials, researching and writing papers, preparing for tests, memory techniques, improving reading skills, understanding emotional and physical needs, and using learning resources.

ENGL 105 Information Access (1) Designed to develop basic skills for use as locating tools for searching and finding information resources in the library/media facility. Introduction to fundamental information resources—bibliographies, indexes, reference titles—to equip undergraduates for intelligent use of print and non-print reference tools.

SPECIAL NOTE: The university placement/assessment test is prerequisite to enrolling in ENGL 111S. ENGL 111S, 112S, and 115S **must** be taken in sequence, beginning with 111S.

ENGL 111S Discourse and Composition (4) An introduction to discourse in both public and academic settings. *Preq. placement or ENGL 099 or 100*

ENGL 112S Composition and Research (4) An introduction to the relationship between research and composition.

ENGL 115S Composition and Literature (4) An introduction to the genres of literary discourse and critical analysis.

ENGL 120 Vocabulary Expansion (2) A non-developmental course intended primarily to enhance the vocabulary skills of students with a reasonable range of existing vocabulary.

ENGL 121 Technical Writing (3) A course which stresses clarity in technical communications with emphasis on the improvement of writing style and the mastery of exact organization. Types of writing include reports (formal and informal), proposals, resumes, and specifications. Because of the textbook and specific writing assignments, this course is not open to liberal arts students. *Preq. sophomore standing in a technical program.*

ENGL 200 Introduction to Literature (4) An analysis of selected literary works which aims to develop reading and interpretive skills and to familiarize students with the language of literary study.

ENGL 203 Introduction to Drama (4) Modern dramatic forms are analyzed in an attempt to define the genre.

ENGL 210 Introduction to Fiction (4) A study of forms and techniques of the novel, novella, and short story.

ENGL 211 Survey of English Literature 1 (4) Survey of the development of English literary traditions from the Medieval Period through the eighteenth century.

ENGL 212 Survey of English Literature 2 (4) Survey of the development of English literature beginning with the Romantics and moving into contemporary writers and works.

ENGL 222 Business Writing (4) A study of writing skills essential to the business world with special emphasis on the practical application of those skills to "real world" writing tasks.

ENGL 225S Civilization and Literature 1 (4) An interdisciplinary introduction to the major thoughts of various non-western civilizations.

ENGL 226S Civilization and Literature 2 (4) An interdisciplinary introduction to the major thoughts important in the development of Western Civilization.

ENGL 227S Civilization and Literature 3 (4) An interdisciplinary introduction to the major thoughts important in the development of American Civilization.

ENGL 232 Creative Writing (Poetry) (3) A poetry writing course in which conventional, blank, and free verse, as well as techniques of poetic expression are taught.

ENGL 240 Screenwriting (3) An introduction to the elements of screenwriting. Students develop a screen adaptation of a published fictional work as well as study important distinctions between visual and linguistic art forms.

ENGL 245 Creative Writing (Fiction) (3) An introduction to the elements of fiction writing. Students critique their own manuscripts as well as study selected works of published writers.

ENGL 251 Survey of American Literature 1 (4) Study of major works and major authors from the Colonial Period through American Romanticism.

ENGL 252 Survey of American Literature 2 (4) Study of major works and major authors from the Age of Realism to the twentieth century.

ENGL 273 Modern American Poetry (4) Study of themes and forms prevalent in modern American poetry.

ENGL 280 Introduction to American Studies 1 (4) Interdisciplinary study of American culture.

ENGL 281 Introduction to American Studies 2 (4) Interdisciplinary study of American culture.

ENGL 288 Poetry Workshop (3) An advanced course in the writing of poetry. Emphasis is placed on critiquing the writing of students in the class and on marketing for publication. *Preq. ENGL 232*

ENGL 299 Topics in English (1-4) Study of selected topics not otherwise available.

ENGL 300 Children's Literature (4) Readings in literature that appeals specifically to elementary students.

ENGL 301 Shakespeare 1 (4) Intensive study of the tragedies and histories.

ENGL 302 Shakespeare 2 (4) Intensive study of the comedies and problem plays.

ENGL 311 Major English Authors (Before 1800) (4) A variable content course which focuses on one or two authors for the purpose of carefully analyzing their works and detailing their development as writers.

ENGL 312 Major English Authors (After 1800) (4) A variable content course which focuses on one or two authors for the purpose of carefully analyzing their works and detailing their development as writers.

ENGL 315 Theory and Practice in Composition (4) Study of varied methods and strategies for teaching composition with special attention to classroom application for teachers.

ENGL 321 The English Novel (4) A variable content course which examines the emergence and development of the English novel.

ENGL 322 Modern English Drama (4) Study of the developments in English theatre in the 20th century.

ENGL 332 Poetry Workshop (3) An advanced poetry writing course with a major emphasis placed on critiquing the writing of the students in the class for the sake of successfully marketing their work.

ENGL 341 Literature of Initiation and Experience (4) Study of literary works which detail growth and development of character.

ENGL 342 Women in Literature (4) Study of works by and about women.

ENGL 343 Black Authors (4) Study of works about the Black experience.

ENGL 344 Literature of Appalachia (4) Exploration of southern Appalachian experience in literature. Includes works by authors past and present who are themselves products of the region or who have focused on the region in their prose or poetry.

ENGL 349 Regional American Literature (4) A variable content course of literary works which are distinct to a region and which provide a social perspective unique to a particular time and place.

ENGL 351 Major American Authors (4) Intensive study of one or two major authors to provide a detailed understanding of works, thought, and literary development.

ENGL 360 Nature of Language (4) An introduction to the fundamental properties and processes of the world's languages. A review of the major systems and features which constitute language. A discussion of language change, typology, and aspects of language acquisition.

ENGL 362 Patterns of English (4) A survey of various components of English phrase, clause, and sentence structure and an examination of questions of usage. *Suggested Preq. ENGL 360*

ENGL 365 History of English (4) A survey of the patterns and events which have shaped the English language from the time of the Anglo-Saxon to the present. *Suggested Preq. ENGL 360*

ENGL 371 The American Novel (4) A variable content course which examines the emergence and development of the American novel.

ENGL 380 Fundamentals of Rhetoric (4) Study of both ancient and modern theories of rhetoric.

ENGL 381 Fundamentals of Criticism (4) Study of both ancient and modern theories of criticism.

ENGL 383 The English Teacher and Society (4) Analysis of the role of the English teacher in modern society, of the philosophies which underlie various methods of English teaching, and of the rationales for choosing various texts and methods.

ENGL 411 16th Century Renaissance Literature (4) Study of the major works of selected authors such as More, Sidney, Spenser, Marlowe, Shakespeare, Shelton, Wyatt, Surrey, and others.

ENGL 421 17th Century Poetry and Prose (4) Study of the major works of selected authors such as Bacon, Carew, Cowley, Donne, Herrick, Jonson, Marvell, Webster, and Milton.

ENGL 441 The Romantics (4) Study of the poetry and prose of major Romantic writers, including Blake, Wordsworth, Coleridge, Shelly, Byron, and Keats.

ENGL 446 The Victorians (4) Study of English poetry and prose from 1830 to 1900.

ENGL 460 Topics in Linguistics (4) Senior seminar in selected topics in linguistics: linguistics and literature, social aspects of language, psychological aspects of language, varieties of English, English as a second language, and Black English (including Pidgin and Creole). Can be taken more than once when different themes are offered. *Preq. ENGL 360 and 365*

ENGL 461 19th Century American Literature (4) Intensive study of major authors and works of the 19th century.

ENGL 471 20th Century American Literature (4) Intensive study of major authors and works of the 20th Century.

ENGL 485S Community Involvement (Core Course) (2) Community Involvement is an outgrowth of the purposes and objectives of the University. The series of activities integral to the Community Involvement course enhance the education of the student, complement the senior seminar, and communicate to the students their obligation to human beings in need and society at large.

ENGL 490S Senior Seminar (Course Course) (4) Provides an opportunity for students to place their chosen field of study in an interdisciplinary context with intellectual, ethical, and historical perspectives. The seminar focuses on the synthesis and integration of various concepts by applying them to the analysis and solution of problems chosen in the context of their academic disciplines. Oral and written presentations of the seminar paper are required.

ENGL 495 Topics in Literature (4) A senior seminar course in selected topics in literature. Specific topic to be chosen by the instructor.

ENGR 209 Industrial Supervision (3) Training in the methods of handling management and personnel problems and in setting policies. Preparation of the student for supervisory positions.

ESL 91 Elementary English 1 (4) Development of elementary listening comprehension, speaking, reading, and writing skills in English. Laboratory exercises are used to reinforce these skills.

ESL 92 Elementary English 2 (4) Continuation of ESL 91. *Preq. ESL 91*

ESL 93 Elementary English 3 (4) Continuation of ESL 92. *Preq. ESL 92*

ESL 94 Intermediate English 1 (4) Development of intermediate oral communication skills in English, but with increased emphasis in reading and writing. May be taken concurrently with ESL 93. *Preq. ESL 93 or satisfactory score on ESL assessment test.*

ESL 95 Intermediate English 2 (4) Continuation of ESL 94. *Preq. ESL 94 or satisfactory score on ESL assessment test.*

ESL 96 Intermediate English 3 (4) Development of advanced communicative skills in English. May be taken concurrently with ESL 97, 98, and 99. *Preq. ESL 95 or satisfactory score on ESL assessment test.*

ESL 97 Advanced English 1 (4) A follow-up to ESL 96. A course emphasizing oral proficiency and applied grammatical concepts. Improvement of speed and comprehension in reading through conscious analysis of paragraph structure and recognizing the progressive development of ideas. May be taken concurrently with ESL 96, 98, and 99. *Preq. ESL 96 or satisfactory score on ESL assessment test*

ESL 98 Advanced English 2 (4) Training in the fundamental skills including grammar, usage, organization, and development. For international students, includes idiomatic expressions and problems common to non-native speakers of English. Utilizes methodologies appropriate for international students. Designed to prepare international students for Discourse and Composition. *Preq. ESL 96 or satisfactory score on ESL assessment test.*

ESL 101 English for International Students (Equivalent to ENGL 111S) Review of sentence structure, mechanics and usage, paragraph development, and short essay organization. For international students, includes reading and analysis of prose models and work on other English fundamentals. Emphasis on revising for clarity, coherence, and organization. Utilizes methods appropriate for ESL students.

ETCO 110 Introduction to Engineering Technology (1) Survey of the role of the engineering technologist in industry. Emphasis on the areas of electrical/computer, manufacturing, and plastics engineering technologies.

ETCO 210 Occupational Safety and Health (3) Industrial safety, occupational health issues, accident prevention, working conditions, provisions and policies of OSHA. Compliance with OSHA regulations. *Preq. sophomore standing and GPA of 2.0*

ETCO 485S Community Involvement (Core Course) (2) Community Involvement is an outgrowth of the purposes and objectives of the University. The series of activities integral to the Community Involvement course enhance the education of the student, complement the senior seminar, and communicate to the students their obligation to human beings in need and society at large.

ETCO 490S Senior Seminar (Core Course) (4) Provides an opportunity for students to place their chosen field of study in an interdisciplinary context with intellectual, ethical, and historical perspectives. The seminar focuses on the synthesis and integration of various concepts by applying them to the analysis and solution of problems chosen in the context of their academic disciplines. Oral and written presentations of the seminar paper are required.

ETEC 210 Introduction to Electricity (4) Fundamental principles of DC and AC electricity. Analysis of electrical circuits to determine quantities of voltage, current, resistance, power, and energy. An introduction to motors, generators, relays, and transformers. *Preq. MATH 130; 3 lec. 3 lab*

ETEC 211 Introduction to Electronics (4) Introduction to solid state electronics with emphasis on practical applications. Process control techniques are surveyed. *Preq. ETEC 210; 3 lec. 3 lab*

ETEC 285 Internship 1 (1) Minimum of 40 contact hours of practical industrial experience in the electrical and computer fields. Students are required to maintain complete records of their learning experiences. *Preq. junior standing*

EXST 101 Typing 1 (3) A study of the touch system of typewriting with emphasis on development of speed and accuracy on both the typewriter and microcomputer. Touch system on the ten-key numeric keypad on the microcomputer is included. *3 lec. 2 lab*

EXST 102 Typing 2 (3) A continuation of EXST 101 with application of basic typing techniques to the production of letters, memorandums, outlines, tabulated reports, and manuscripts on both the typewriter and microcomputer. *W; Preq. EXST 101; 3 lec. 2 lab*

EXST 103 Typing 3 (3) A continuation of EXST 102 with emphasis on developing the ability to produce mailable copy of technical reports, drafts, and business correspondence. *Sp; Preq. EXST 102; 3 lec. 2 lab*

EXST 111 Shorthand 1 (3) Introduction to reading and writing of Gregg shorthand and the development of the nonshorthand elements of transcription which include vocabulary development, spelling, punctuation, and grammar. *F; 3 lec. 2 lab*

EXST 112 Shorthand 2 (3) A continuation of EXST 111 designed to perfect shorthand theory, phonetics, word families, brief forms and phrases, and penmanship. Students are encouraged to raise speed and accuracy levels. *W; Preq. EXST 111; 3 lec. 2 lab*

EXST 113 Shorthand 3 (3) A continuation of EXST 112 with greater emphasis on building speed and accuracy and producing mailable copy. *Sp; Preq. EXST 112; 3 lec. 2 lab*

EXST 120 Business Machines (1) Introduction to the use of electronic calculators.

EXST 130 Records Management (3) Introduction to the ARMA alphabetic indexing rules which are applied using both a manual filing practice set and electronically with the microcomputer. Data base management is presented using the Professional File software program. *Sp; 3 lec. 2 lab*

EXST 140 Dictation and Transcription 1 (3) A course designed to develop the ability to transcribe business documents into mailable copy form using transcription equipment and microcomputers. Emphasis is placed on proofreading skills, correct grammar usage, and use of correct punctuation. *Sp; Preq. EXST 102; 3 lec. 2 lab*

EXST 214 Microcomputer Office Practice (3) An introduction to the uses of computer software in today's office. *F; Preq. EXST 103; 3 lec. 2 lab*

EXST 215 Microcomputer Office Applications 1 (3) An introduction to Lotus 1-2-3 and Professional Plan. *W; Preq. 40 wpm and basic knowledge of microcomputers; 3 lec. 2 lab*

EXST 216 Microcomputer Office Applications 2 (3) An introduction to the WordPerfect word processing system. *Sp; Preq. 40 wpm and basic knowledge of microcomputers; 3 lec. 2 lab*

EXST 221 Word Processing 1 (3) Word processing concepts and skills are presented to the person with no previous training in word processing. *Preq. 40 wpm and the ability to set up letters, memos, reports, and tabulations; 3 lec. 2 lab*

EXST 222 Word Processing 2 (3) A continuation of EXST 221 with more advanced applications of the software. *Preq. EXST 221; 3 lec. 2 lab*

EXST 240 Dictation and Transcription 2 (3) A continuation of EXST 140 with a more advanced study of correct grammar, editing of mailable copy, and increased transcription speed. *F; Preq. EXST 140; 3 lec. 2 lab*

EXST 241 Secretarial Practices 1 (3) Introduction to the responsibilities and opportunities of a secretarial position encompassing a variety of secretarial duties. Lab work is completed on a microcomputer. *F; Preq. EXST 103, 140; 3 lec. 2 lab*

EXST 242 Secretarial Practices 2 (3) A continuation of EXST 241 including assisting with travel arrangements, planning meetings, presenting business data, and handling financial and legal procedures. *W; Preq. EXST 241; 3 lec. 2 lab*

EXST 243 Secretarial Practices 3 (3) Introduction to the changes which high-tech equipment has made on today's office. Emphasis on the influence of the microcomputer. *Sp; Preq. EXST 222, 242; 3 lec. 2 lab*

EXST 244 Medical Secretarial Practices (3) Introduction to the proper procedures for preparing medical reports, clinical reports, and general medical correspondence and documents using a microcomputer. An extensive list of medical terms and their correct usage in documents is emphasized. *Sp; Preq. EXST 222, 242; 3 lec. 2 lab*

EXST 245 Legal Secretarial Practices (3) An introduction to the various types of legal documents prepared at the microcomputer. An extensive list of legal terms and their correct usage in legal documents is emphasized. *Sp; Preq. EXST 222, 242; 3 lec. 2 lab*

FINA 201 Principles of Finance (4) A study of the forms of business organization, cash flow projections, budgeting and financial planning, and analysis of financial statements. *Preq. ECON 102 and ACCT 103 or ACCT 210*

FINA 304 Investments (4) A study of various investment alternatives and the general and specific information that must be considered before thought is directed toward specific industries and businesses. Included is the study of the tools and sources needed for analysis in making wise investment decisions. *Preq. ECON 102 and ACCT 103 or 210*

FINA 311 Financial Statement Analysis (4) A detailed study involving the analysis and interpretation of financial information contained in financial reports of various entities, including measurements of the firm's profitability, solvency, and degree of safety. *Preq. ACCT 103 or 210*

FINA 345 Managerial Finance (4) An analysis of financial information for the purpose of facilitating the planning, organizing, and controlling functions of management. Includes financial statement analysis, budgeting, concepts of present and future value, cash flow analysis, and capital budgeting decisions. *Preq. MGNT 310 and ACCT 210*

FINA 481 International Finance (4) A survey of the institutions, methods, instruments, and procedures involved in international finance including the nature of the foreign money market, foreign legal and tax environment, and foreign subsidiary operations. *Preq. FINA 345*

FREN 111 Elementary French 1 (4) Beginning course of a three-quarter, first-year sequence. Basic grammatical concepts and patterns. Emphasis is on development of reading, listening, comprehension, speaking, and writing skills.

FREN 112 Elementary French 2 (4) Continuation of FREN 111. *Preq. FREN 111*

FREN 113 Elementary French 3 (4) Continuation of FREN 112. *Preq. FREN 112*

FREN 211 Intermediate French 1 (4) An intensive review of grammar and sentence structure and introduction to selected readings in French literature. Oral expression is stressed. *Preq. FREN 113*

FREN 212 Intermediate French 2 (4) Continued intensive review of grammar. Sight translation is stressed. Conversational drills include advanced idiomatic expressions. *Preq. FREN 211 or instructor approval*

FREN 213 Intermediate French 3 (4) Advanced vocabulary and sentence structure are stressed.. Emphasis is on writing and free composition. *Preq. FREN 212 or instructor approval*

GEOG 101 Environment and Man (4) Discusses issues of resource management, water and air pollution, solid wastes, energy, land use planning, wilderness, population pressures, interaction of ecosystems.

GEOG 125 World Geography (4) Concerns world's regions and nations, resource use, cultural groups, and political patterns. Designed to develop an understanding of world affairs and the applications of geography in general.

GEOG 130 Economic Geography (4) Systematic survey of locational economic patterns and their interrelationships.

GEOG 201 Cultural Geography (4) Impact of various cultures on landscape, distribution of cultural traits, ecological adaptations, and cultural areas throughout the world.

GEOG 225 Physical Geography (4) Systematic survey of earth-sun relationships, land forms, climate, soils, and natural vegetation.

GEOG 230 Urban Geography (4) Study of city function, patterns, and past and current problems confronting the city, including planning, zoning, housing, and urban renewal.

GEOG 242 Geography of Ohio (4) Detailed regional study of physical background, settlement, and economic development.

GEOG 243 Geography of Appalachia (4) A study of Appalachia from a geographical approach, including a detailed examination of physical aspects (climate, soil, vegetation, minerals, and water resources), historical development both past and present, settlement patterns, and economic patterns of the region. Offered as demand indicates.

GEOG 299 Special Topics in Geography (1-4) Individual or small group study under the supervision of instructor on topics not otherwise available to the student. Separate courses are repeatable for credit. *Preq. GEOG 101, 125, 130, or 201*

GEOG 310 Medical Geography: Geography of Life or Death (4) Relationship between disease and the physical and socio-economic environ. Topics include disease ecology, historical patterns of cholera and plague, tropical disease, weather and health, cancer and heart disease in the U.S., hunger and the environment, distribution of resources, and introduction to facilities location planning.

GEOG 311 Geography of Air Pollution (4) Examination of air pollutants and their social and economic impacts, control strategies, and air pollution planning.

GEOG 350 Regional Geography: Geography of North America (4) The U.S. and Canada studied from a geographical perspective, including detailed examination of climate, soil, vegetation, minerals, water resources, historical development, settlement patterns, and economic aspects of the region.

GEOG 404 Transportation Geography and Management (4) Examination of the geography of transport routeways and the geographic factors governing their evolution and use. Various modes (e.g. rail, water, highway) are discussed in terms of facilities, environmental impacts, rate structures, and commodities shipped. Decision processes of shippers, carriers, and government are examined.

GEOG 499 Special Topics in Geography (1-4) Individual or small-group study, under supervision of instructor, of topics not otherwise available to the student. Separate courses are repeatable for credit. *Preq. GEOG 101, 125, 130, or 201*

GEOL 101 Rocks, Minerals, and Fossils (4) Introduction to Earth materials. Strong emphasis on identification of rocks, minerals, and fossils. Lecture topics include several key Earth processes and important geologic theories. Course includes laboratory assignments and a field trip to fossil localities near Portsmouth. Course is not available to students who have successfully completed GEOL 201

GEOL 112 Environmental Geology (4) Analysis of complex interaction between Earth and man. Emphasis on natural hazards such as floods, earthquakes, volcanic eruptions; waste disposal; and groundwater, mineral, and energy resources. Course includes laboratory assignments and a field trip.

GEOL 201 Physical Geology (4) Introduction to Earth materials and the processes that shape the Earth's surface. Emphasis on identification of rocks and minerals; important Earth processes such as volcanism, weathering, glaciation, and earthquakes; and theories which have modified our explanation of geologic phenomena. Course includes laboratory assignments and a field trip to Hocking Hills.

GEOL 202 Historical Geology (4) The history of the Earth and its inhabitants. Emphasis on major physical and biological events that have profoundly affected the Earth, on causal mechanisms of geological events, and on the theories that have changed our interpretation of the earth's history. Course includes lecture, lab, and field trip to localities in southern Ohio. *Preq. GEOL 101 or 201*

GEOL 290 Seminar in Geology (1-4) Discussion of advanced topics in Geology.

GEOL 295 Independent Study (1-4) Independent geology investigation under the direction of a faculty member.

GEOL 299 Special Topics in Geology (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

GEOL 301 Invertebrate Paleobiology (4) An introduction to major groups of invertebrates that are commonly preserved in rocks. Emphasis on preservation, morphology, collection, and geological and biological significance of invertebrate micro- and mega-fossils. Cross-listed as BIOL 301. *Preq. GEOL 202 or instructor permission*

GEOL 303 Sedimentary Rocks (4) Advanced study of siliciclastic and carbonate rocks. Emphasis on interpretation of depositional environments of sedimentary rocks by using modern analogues. *Preq. GEOL 202 or instructor permission*

GEOL 390 Seminar in Geology (1-4) Discussion of advanced topics in Geology.

GEOL 401 Field Methods (4) Study and use of the essential methods of field observations, description, and mapping. Course consists of lecture and detailed field projects in the Portsmouth area.

GEOL 485 Senior Project (1-4) In-depth study of a selected topic in geology, culminating in the preparation of a senior paper. *Preq. junior or senior standing*

GEOL 490 Seminar in Geology (1-4) Discussion of advanced topics in geology. *Preq. junior or senior standing*

GEOL 495 Independent Study (1-4) Independent geology investigation under the direction of a faculty member. *Preq. junior or senior standing*

GEOL 499 Special Topics in Geology (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students. *Preq. junior or senior standing*

GOVT 101 National Government (4) Constitutional basis and development, political processes, structures, and functions of the national government.

GOVT 102 National Policy Issues (4) Study of the national government's performance in selected areas, e.g., foreign policy, welfare, and environment.

GOVT 203 Politics in the American States (4) Comparative analysis of state political systems with an emphasis on structure and process of policy making within the federal context.

GOVT 250 Introduction to Political Science (4) A course which describes the nature of the discipline, explains some of the approaches political scientists take in studying politics, and offers introductory treatments of certain major topics, such as political ideologies, political economy, the constitutional and legal framework of nation states, governmental institutions, and international relations. Required course for all social science majors.

GOVT 299 Special Topics in Government (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students. Repeatable for credit.

GOVT 303 The United States in World Affairs (4) Introduction to some major world political, military, and economic problems confronting the U.S. Examination of the historical development and current status of these problems.

GOVT 320 International Relations (4) Introduction to the origin, nature, and development of the state system. Study of the concepts of international relations: sovereignty, nationalism, imperialism, and national power. Examination of the causes of war and exploration of select contemporary international issues.

GOVT 330 Western European Politics (4) Comparative analysis of the political systems of Britain, France, the German Federal Republic, and other Western European countries.

GOVT 350 Urban Politics (4) Study of the structure and function of urban governments. Examination of select urban topics, e.g., transportation, housing, social welfare.

GOVT 401 State of the World (4) Surveys current world situations from several social science perspectives. Incorporates student's background from previous interdisciplinary courses. Required course for all social science majors.

GOVT 499 Special Topics in Government (1-4) Individual or small-group study (at upper division level), under supervision of instructor, of topics not otherwise available to students. Repeatable for credit. *Preq. eight hours GOVT or permission*

HIST 111 American History to 1828 (4) Exploration and colonization; political, social, and economic life of the English colonies to 1763; struggle for independence; constitutional development and the Federalist era; Jeffersonian democracy and the War of 1812; rise of Jackson.

HIST 112 American History, 1828-1900 (4) Jacksonian democracy, territorial expansion, growth of sectionalism, Civil War, reconstruction, impact of expanded Industrial Revolution.

HIST 113 American History Since 1900 (4) Progressive movement, WWI, Republican prosperity, the Great Depression and the New Deal, WWII and problems of the cold war era, turmoil and reform in the 1960's, crisis of confidence in the 1970's, and renewal in the 1980's.

HIST 201 Ancient History (4) A survey of antiquity from the rise of civilization in ancient Sumeria and Egypt to the end of the Roman empire.

HIST 202 Medieval and Early Modern Europe (4) A survey of European history from the beginning of the Middle Ages to 1789.

HIST 203 Modern Europe (4) A survey of European history from the French Revolution to the present.

HIST 225S Civilization and Literature 1 (4) Cross-listed as ENGL 225S. Part of general education core requirement. The first of a three-course sequence designed to introduce student to western, American, and non-western cultures. This sequence focuses on a variety of themes while providing a chronological examination of texts, thoughts, people, and events important to the development of human kind.

HIST 226S Civilization and Literature 2 (4) Cross-listed as ENGL 226S. Part of general education core requirement. Continuation of HIST 225S.

HIST 227S Civilization and Literature 3 (4) Cross-listed as ENGL 227S. Part of general education core requirement. Continuation of HIST 226S.

HIST 250 Historical Methods Seminar (4) An introduction to historical research and writing.

HIST 260 East Asian History (4) A survey of the history of China and Japan.

HIST 299 Special Topics (1-4) Separate courses repeatable for credit. *Preq. HIST 111,. 112, 113, or 201, 202, 203*

HIST 301 Formation of the American Nation, 1750-1828 (4) Causes and consequences of the American revolution, Confederation period and establishment of new constitutional order, survival and development of the republic in an unfriendly world, 1789-1815, Era of Good Feeling, and transition to Jacksonian Democracy.

HIST 305 From FDR to Reagan (4) A survey of domestic history from the New Deal to the present. The Great Depression and the New Deal, domestic consequences of World War II and the Cold War, reform efforts of the 1960's, Vietnam trauma, exhaustion of liberalism in the 1970's.

HIST 310 Nazi Germany (4) An examination of Adolph Hitler, Nazi ideology, World War II, the concentration camps, and genocide.

HIST 325 History of Russia (4) An overview of Russian history since the Age of Peter the Great. Emphasis on the period from the Crimean War to the present, examining the ambivalent modernization efforts of the late Empire, the collapse of the autocracy in WWI, and subsequent triumphs and travails of the Soviet Experiment.

HIST 330 History of Southern Africa (4) A survey of the African and European experiences in southern Africa from the 17th Century to the present.

HIST 335 History of the Modern World (4) An overvieiw of the major events and trends that have shaped the modern era. The modern Thirty Years War; Marxist regimes in Russia, China, and Cuba; the Cold War and the arms race; European decolonization and the rise of Third World Nationalism; development of a global economy.

HIST 340 History of Medicine 1 (4) The history of medicine from antiquity to approximately A.D. 1500. This course examines the influence of disease on history, traces the development of medical theories, and examines the treatments formerly used by medical personnel.

HIST 341 History of Medicine 2 (4) The history of medicine from A.D. 1500 to the present. This courses traces the emergence of modern medicine and examines the achievements and errors of medical pioneers.

HIST 410 Intellectual History 1 (4) An in-depth analysis of the Western intellectual tradition during the ancient and medieval periods. Special emphasis on philosophy, religion, science, and mathematics.

HIST 411 Intellectual History 2 (4) An in-depth analysis of the Western intellectual tradition from the Renaissance to the present. This course traces the main currents of modern thought. Topics include Protestantism, romanticism, Marxism, and Darwinism.

HIST 499 Special Topics in History (1-4) Individual or small-group study, under supervision of instructor, of topics not otherwise available to student. Separate courses repeatable for credit. *Preq. HIST 111, 112, 113, or 201, 202, 203*

HPER 103 Introduction to Human Nutrition (2) Study of nutrients, nutritional diets, deficiencies, and the role of nutrition in promoting health.

HPER Physical Education Activities (1) Basic rules and fundamentals for each of the following activities. Special emphasis on strategies, team, and individual play. An appreciation of each of the activities is developed to carry over into later life.

HPER 105 Archery
HPER 111 Basketball
HPER 113 Billiards
HPER 115 Bowling
HPER 117 Volleyball
HPER 119 Walleyball
HPER 120 Beginning Golf
HPER 121 Intermediate Golf
HPER 122 Handball
HPER 124 Softball
HPER 130 Beginning Racquetball
HPER 131 Intermediate Racquetball
HPER 132 Advanced Racquetball
HPER 140 Beginning Tennis
HPER 141 Intermediate Tennis
HPER 142 Advanced Tennis
HPER 149 Badminton
HPER 150 Swimming
HPER 151 Intermediate Swimming
HPER 152 Life Saving
HPER 153 Advanced Life Saving
HPER 154 Life Guard Training
HPER 155 Advanced Swimming
HPER 156 Fitness Swimming
HPER 157 Swimmercize
HPER 158 Diving
HPER 159 Water Volleyball
HPER 160 Dance
HPER 161 Yoga
HPER 162 Advanced Yoga
HPER 165 Beginning Gymnastics
HPER 170 Karate
HPER 171 Judo
HPER 172 Women's Self Defense
HPER 180 Jogging
HPER 181 Skiing
HPER 182 Orienteering
HPER 183 Rock Climbing
HPER 184 Caving

HPER 185 Backpacking
HPER 186 Cycling
HPER 187 Conditioning and Weight Training
HPER 188 Conditioning and Weight Training/Nautilus
HPER 189 Horseback Riding
HPER 190 Beginning Scuba
HPER 191 Scuba—Open Water
HPER 197 Canoeing

HPER 200 Introduction to Recreation (3) A study of the general concepts of recreation, including definitions, history, legal basis, current development, and present importance of recreation in our society. Management and administration of parks and recreation organizations. Laboratory introduction to a number of recreation experiences. *3 lec. 3 lab*

HPER 202 Personal and Community Health (4) Fundamentals, practices, and appreciation of healthful living. Designed to incorporate the principles of scientific health information and promote desirable attitudes and practices in individuals, parents, and teachers.

HPER 203 Human Nutrition (4) A study of nutrients, including sources, composition, function, and metabolism in the human body. The human life cycle is considered in planning appropriate diets.

HPER 220 Introduction to Athletic Training (3) Introduction to prevention, treatment, care, and rehabilitation of athletic injuries.

HPER 227 First Aid (4) The standard and personal safety American Red Cross first aid course, involving CPR, bleeding control, shock treatment, proper methods of transportation, bandaging, and splinting. The course involves lectures, practical work and group work. The standard American Red Cross certificate, as well as CPR certification, is granted if at least 20 hours of classwork are completed and all requirements are met.

HPER 234 Laboratory Experience in Physical Education (2) Observation and research in physical education in the elementary and secondary levels.

HPER 235 Orientation to Recreation Employment (1) Resume writing, job application, interviewing, contact follow-up, letter writing, job hunting strategies, and potential employers. *1 lec. 1 lab*

HPER 236 Field Experience in Recreation (2-6) Supervised work experience while gaining skills and knowledge in the field of recreation.

HPER 239 Athletic Officiating—Football (3) Rules, mechanics, and procedures in officiating. Practice under actual game conditions. State certification upon successful completion of state examination. OHSSA fee for certification and books.

HPER 240 Athletic Officiating—Basketball (3) Rules, mechanics, and procedures in officiating. Practice under actual game conditions. State certification upon successful completion of state examination. OHSSA fee for certification and books.

HPER 241 Athletic Officiating—Baseball (3) Rules, mechanics, and procedures in officiating. Practice under actual game conditions. State certification upon successful completion of state examination. OHSSA fee for certification and books.

HPER 242 Athletic Officiating—Volleyball (3) Rules, mechanics, and procedures in officiating. Practice under actual game conditions. State certification upon successful completion of state examination. OHSSA fee for certification and books.

HPER 245 Introduction to Coaching (2) Introduction to high school interscholastic athletics, including history, structures, job opportunities, and contemporary programs.

HPER 250 Recreation Leadership (4) Lectures, discussion, and group dynamics in social recreation, including games, sports skills, dance, arts and crafts, nature studies, setting up various types of tournaments, and practical work in community organizations.

HPER 252 Youth and Sports (3) Exploration of opportunities, controversies, organization, safety, values, rules, leadership, benefits, and settings of youth sports programs.

HPER 255 Aquatic Recreation Leadership (4) Study of water-related recreational facilities such as marinas, swimming areas, and fishing. Consideration will be given to boating laws, boat operation and safety, and all forms of water recreation. *2 lec. 6 lab*

HPER 260 Outdoor Recreation (4) Several aspects of outdoor recreation, including concepts of feasibility, interpretation, and personal recreation equipment use and care. Laboratory exercises. *Co-req. HPER 200 or permission of instructor; 2 lec. 6 lab*

HPER 261 Introduction to Physical Education and Health (2) Lectures, discussion, and visual aids pertaining to scope and content of a professional physical educator. *Preq. P.E. majors/minors and health majors*

HPER 270 Physical Education for the Elementary Classroom (4) Lab and lecture experience for teaching physical education in the elementary schools. Lab experience revolves around methods of presenting games, self-testing activities, rhythmics, and innovative devices in the elementary grades. Designed for elementary education majors.

HPER 281 Administration of Intramural Athletics (4) Organizing and administering a program of intramural sports for all age levels. Designed especially for elementary and secondary teachers. *Preq. Ed. and P.E. majors/minors*

HPER 295 Independent Study (2) Study, observation, and research in selected physical education fields. Under the direction of HPER faculty member. *Preq. upper division HPER classes*

HPER 340 Coaching of Volleyball (2) Theory of coaching volleyball: analysis of skills, strategies, methods, duties, and responsibilities.

HPER 341 Coaching of Basketball (2) Theory of coaching basketball: analysis of skills, strategies, methods, duties, and responsibilities.

HPER 342 Coaching of Football (2) Theory of coaching football: analysis of skills, strategies, methods, duties, and responsibilities.

HPER 343 Coaching of Track (2) Theory of coaching track: analysis of skills, strategies, methods, duties, and responsibilities.

HPER 344 Coaching of Softball (2) Theory of coaching softball: analysis of skills, strategies, methods, duties, and responsibilities.

HPER 360 Drugs, Alcohol, and Tobacco (4) An in-depth study of alcohol, tobacco, and other drugs and how chemical dependency on these drugs can affect individual performance and behavior.

HUMN 201 Tradition of Great Books 1 (4) Classics of ancient Greek, Roman, and Hebrew. Discussion and practice in critical thinking, reading, and writing about these great works.

HUMN 202 Tradition of Great Books 2 (4) Classics from the ancient world, middle ages, age of reason, and Romantic period.

HUMN 203 Tradition of Great Books 3 (4) Classics of the ancient world and middle ages and writings of more recent times, including the present.

IMST 103 Industrial Electricity (3) A course designed to familiarize the student with the National Electrical Code and practices used in industry to install electrical conductors, switching equipment, and overload protection and equipment. Course includes motors, generators, and machine controls. *Preq. EMNG 111, 112; 2 lec. 5 lab*

IMST 111 Industrial Electronics (3) A course designed to familiarize the student with industrial electronic circuits, including amplifiers, DC power supplies, and integrated circuits. *PREQ. EMNG 111, 112; 2 lec. 3 lab*

IMST 120 Process Instrumentation (4) Introduction to measurement and control systems for temperature, pressure, and fluid flow. Dynamic response characteristics of instruments and calibration methods. Introduction to transducers, transmitters, controllers, and control systems. Both electrical and pneumatic systems are included.

IMST 185 Instrumentation Internship (6) Eleven weeks of supervised work experience in industry which relates directly to the student's field of study. Supervisory visits by the instructor are coordinated with periodic evaluations by the industry to critique the performance of the student.

IMST 201 Instrumentation Electronics (4) A course designed to familiarize the student with the electronic equipment and devices found in electronic instrumentation. High voltage power supplies, amplifiers, input and output transducers, recording devices, ultrasonics, synchros, telemetering, remote control, and optical electronics are included. *Preq. IMST 111*

IMST 202 Programmable Controllers 1 (4) Introduction to basic industrial control circuits and schemes using the programmable controller as a control device. Instruction on the proper methods of programming the controller for the desired scheme. *Preq. IMST 111; 5 lab*

IMST 203 Programmable Controllers 2 (4) A continuation of IMST 202, including more advanced control using the controller as a programmable controller. Proper methods of interfacing the programmable controller to the controlled device and peripheral devices. *Preq. IMST 111 and advisor approval; 5 lab*

IMST 211 Fluid Mechanics 1 (4) The physical properties of gases and liquids and their behavior under various conditions, atmospheric pressure, intensity of pressure, energy of liquids, properties of gases and liquids, various laws and principles governing gases and liquids, pneumatics, and hydraulic machines and devices. *Preq. MATH 201, PHYS 201*

IMST 212 Fluid Mechanics 2 (4) A continuation of IMST 211 stressing the application of working formulas such as the Bernoulli and momentum equations as they relate to the physical properties of gases and liquids, the flow of fluid force, and the calculation of pipe sizes, pressures developed, and pump deliveries. *Preq. MATH 201*

IMST 221 Instrument Fundamentals 1 (4) A course designed to provide the student with a knowledge of instruments. Introduction to the field of work, shop and industrial safety, care and use of hand and power tools, soldering techniques, reading and interpreting instrumentation drawings, measurement and control devices, final control elements, and standards and calibration. *Preq. IMST 201*

IMST 222 Instrument Fundamentals 2 (4) Continuation of IMST 221. *Preq. IMST 221*

IMST 223 Measurement Principles (4) Industrial methods of measuring pressure, temperature, and flow with various types of measuring devices. The theory of operation of manometers, thermometers, strain gauges, and other precision measurng equipment. *Preq. IMST 201, 221*

IMST 224 Industrial Control 1 (4) Introduction to basic industrial control circuits and schemes. Pneumatic, hydraulic, electrical, and electronic control. *Preq. IMST 211, 221*

IMST 225 Industrial Control 2 (4) The procedures of using and configuring a distributive process control system. The student is required to implement the control system. *Preq. IMST 224*

JOUR 105 Introduction to Mass Communication (4) Introduces all forms of mass communication, including newspapers, magazines, radio/television, book publishing, public relations, advertising, and photojournalism. Begins with an analysis of the communication process and ends with media career opportunities.

JOUR 231 News Reporting and Writing (4) Methods of gathering and evaluating news and writing news stories. Practice work includes covering assignments and writing news copy. *Preq. typing proficiency*

JOUR 289 Magazine Feature Writing (4) Writing and marketing free-lance magazine articles of various types, including personal narrative, informative, how-to, historical, personality sketch, investigative, and interpretative. Students learn how to generate ideas, get photos, propose article ideas to editors, and survey regional and specialty magazine markets.

JOUR 299 Topics in Journalism (3) Study of various topics in journalism not otherwise available to students.

LING 270 Nature of Language (4) An introduction to the fundamental properties and processes of the world's languages. A review of the major systems and features which constitute language. A discussion of language change, typology, and aspects of language acquisition.

LING 362 Patterns of English (4) A survey of various components of English phrase, clause, and sentence structure and an examination of questions of usage. *Suggested preq. LING 270*

LING 365 History of English (4) A survey of the patterns and events which have shaped the English language from the time of the Anglo-Saxon to the present. *Suggested preq. LING 270*

MATH 099 Fundamental Mathematics (4) A brief review of the fundamentals used in arithmetic, including addition, subtraction, multiplication, and division as applied to integers and rational numbers. An introduction to the elementary concepts of basic algebra with emphasis on manipulations of algebraic expressions, solutions to simple equations, graphs, and formula rearrangements. (Does not count toward a degree.)

MATH 101 Basic Algebra (4) A course for students with a good background in arithmetic but little or no background in algebra. Operations with integers, numbers, properties, scientific notation, solving and graphing linear equations and inequalities, operations with polynomials, laws of exponents, and laws of radicals. *Preq. placement or MATH 099*

MATH 105 Plane Geometry and Algebra (4) A course for students with a good background in algebra but little or no background in geometry. Graphing; proof and logical thinking; problem-solving; measurement; area, perimeter, and volume of common geometric figures; properties of lines and polygons; and work at a more advanced level with algebra, including work with geometrically related topics. *Preq. placement or MATH 101*

MATH 110S Mathematics in Society (Core Course) (4) The application of mathematics to the real world, including measurement, geometry, probability, statistics, and finance. Emphasis on improving problem-solving skills. *Preq. placement or MATH 105; 3 lec. 1 discussion*

MATH 120 Elementary Topics in Mathematics 1 (5) Problem-solving, sets, concepts of logic, binary operations, systems of numeration, number theory, rational numbers, real numbers, measurement, and use of calculators and computers. *Preq. MATH 110S*

MATH 121 Elementary Topics in Mathematics 2 (5) Basic algebraic work with equations and inequalities in one unknown, systems of equations, metric and nonmetric geometry, coordinate geometry, introduction of statistics and probability, problem-solving, and computer use. *Preq. MATH 120*

MATH 125 Business Mathematics (4) Emphasis on estimating answers, percentages, reconciliation of a checking account, mark-up, taxes, depreciation, payroll and payroll deductions, inventory evaluation, financial statements, simple and compound interest on investments and loans, and use of calculators. *Preq. MATH 101*

MATH 130 College Algebra 1 (4) Real numbers; review of algebraic expressions and operations; linear equations and inequalities in one and two variables, including graphing; absolute value inequalities; properties of exponents and radicals; function concepts and operations; right triangle trigonometry and the law of sines and cosines; systems of two equations in two variables. *Preq. placement or MATH 105*

MATH 131 College Algebra 2 (4) Quadratic equations and inequalities, exponential and logarithmic functions, zeroes of polynomial functions, complex numbers, binomial expressions, simple sequences and series, systems of three or more linear equations. *Preq. placement or MATH 130*

MATH 132 Trigonometry and Analytic Geometry (4) Properties of trigonometry: unit circle and triangular approach, graphing trigonometric functions, solving trigonometric equations, trigonometric identities, graphing quadratic equations and inequalities (circle, ellipse, hyperbola, parabola), proofs using analytic geometry. *Preq. placement or MATH 131*

MATH 150 Principles of Statistics (4) Introduction to the vocabulary, concepts, formulas, and presentation of statistics as applied to business, education, and science. Measures of central tendency and dispersion; probability applied to joint probability tables and Bayes' Theorem; probability distributions with emphasis on Binomial and Normal; sampling practices and theory; and calculator and computer use. Cross-listed as PSYC 150 and SOCI 150. *Preq. MATH 101*

MATH 201 Calculus 1 (4) Functions and limits, properties of differentiation, and applications of derivatives. *Preq. placement or MATH 131*

MATH 202 Calculus 2 (4) Integration of algebraic functions and applications. Differentiation and integration of exponential, logarithmic, trigonometric, and hyperbolic functions. *Preq. MATH 201 and 132*

MATH 203 Calculus 3 (4) Techniques of integration, improper integrals, Taylor's Formula, plane curves, and polar coordinates and infinite series. *Preq. MATH 202*

MATH 204 Calculus 4 (4) Vectors, vector functions, partial derivatives, multiple integrals, and topics in vector calculus. *Preq. MATH 203*

MATH 230 Linear Algebra (5) Solutions to linear systems, matrices and matrix algebra, determinants, n-dimensional real vector spaces and subspaces, linear mappings, diagonalization. Techniques and computational skills emphasized. *Preq. MATH 132, 201*

MATH 250 Statistics 1 (4) Applications of probability distributions with emphasis on Binomial, Poisson, and Normal and of hypothesis testing for one and two population means and variances; tests of goodness of fit and independence; experimental design and analysis of variance. Calculator and computer use of SPSS in student project applications. *Preq. MATH 150 or 201*

MATH 255 Statistics 2 (4) Applications of experimental design and analysis of variance, nonparametric tests, linear regression and correlation, multiple regression, time series analysis and forecasting, decision theory. Computer use of SPSS in student project applications. *Preq. MATH 130, 250*

MATH 290 Seminar in Mathematics (1-4) Discussion of topics in mathematics.

MATH 299 Special Topics in Mathematics (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

MATH 301 Ordinary Differential Equations (4) An introduction to ordinary differential equations with emphasis on technique and application. Topics include existence, uniqueness, first order equations, linear differential equations, and systems. Analytical and numerical methods, including computer use, are studied. *Preq. MATH 203*

MATH 310 Abstract Algebra (5) Introduction to algebraic structures, including groups, rings, integral domains, fields, and homomorphisms. *Preq. MATH 203*

MATH 320 Foundations of Geometry (4) Introduction to axiomatic mathematics through a variety of geometry types, including a consideration of the postulates of Euclid, surface topology, and finite geometry. The development of plane Euclidean and non-Euclidean geometries using appropriate models and the consideration of various geometric configurations. *Preq. MATH 202*

MATH 330 Real Analysis (4) Topics include sequences, compactness, completeness, continuity, series, convergence, differentiation, mean-value theorems, and Riemann integration. *Preq. MATH 203*

MATH 335 Intermediate Analysis (5) In-depth study of limits, continuity, and differentiation of functions of one real variable with computer applications. *Preq. MATH 203*

MATH 410 Modern Algebra (4) Groups: permutations, normal, quotient. Conjugate classes and class equation formula applications, homomorphisms, rings, and field extensions. *Preq. MATH 203, 230, and 310*

MATH 420 Matrix Theory (4) Matrix algebra, determinants, solutions of linear systems. Matrix functions and applications, including linear programming, inner products, diagonalization, generalized inverses, and application of differential equations and optimization. *Preq. MATH 230*

MATH 430 Numerical Analysis (5) Polynomial interpolation and approximation, numerical methods for matrix inversion, solutions for systems or equations, numerical integration and differentiation, numerical solution to differential equations. Computer use emphasized. *Preq. MATH 203, 301, and EDPT 206*

MATH 440 Mathematical Models (4) Construction and analysis of mathematical models and their use in investigation of physical, chemical, biological, engineering, statistical, social, and environmental problems. This analysis is conducted using calculus-based techniques and applicable computer models. *Preq. MATH 203*

MATH 485 Senior Project (1-4) In-depth study of a selected topic in mathematics culminating in the preparation of a senior paper.

MATH 490 Advanced Seminar in Mathematics (1-4) Discussion of advanced topics in mathematics.

MATH 495 Undergraduate Research (1-4) Independent mathematics investigation under the direction of a faculty member.

MGNT 310 Management Principles (4) A study of the fundamental principles of management emphasizing the managerial functions, basic concepts of systems, decision making processes, organizational theory and behavior, and its effect on management. *Preq. ACCT 210, ECON 101, 102*

MGNT 330 Organizational Communication (4) A study of the communication demands and skills relevant to the student's future role as a business or professional person. Organizational communication focuses on principles and techniques involved in organizing ideas, writing effective business letters and reports, and oral communication. *Preq. junior standing*

MGNT 335 Human Resource Management (4) Principles and practices of recruiting, selecting, training, developing, compensating, and maintaining a productive employee group through systematic human resource management planning consistent with government regulations. Includes attention to grievance and disciplinary procedures and collective bargaining. *Preq. MGNT 310*

MGNT 350 Organizational Behavior (4) An examination of the human problem found in organizations with emphasis on the person who is responsible for the performance of others within an organization. Topics include job satisfaction, leadership styles, people at work, basic attributes of organizations, organizational design, and job design. *Preq. MGNT 310*

MGNT 355 Quantitative Methods in Business (4) A study of the quantitative tools and techniques applied to business decision making, including decision analysis, forecasting, linear programming, quality control, inventory, and layout models. Includes the use of standardized computer programs and development of analytical models. *Preq. MATH 201, 250, MGNT 310, and AISM 101*

MGNT 385 Production/Operations Management (4) An overview of production and operations management, including procedures and techniques generally employed in both manufacturing and non-manufacturing organizations. Topics include capacity planning, inventory systems, plant decisions, and operations decisions. *Preq. MGNT 310 and 355*

MGNT 480 Business and Society (4) A case-oriented course designed to study the social problems facing business organizations. Topics include culture, law, ethics, social norms, corporate and business relations, and models of human value. *Preq. senior standing and business major*

MGNT 485 Business Policy and Strategy (4) A case-oriented course designed to develop skills in the integration of interdisciplinary areas as applied to problems in business. Includes both written and oral presentation of case problems. *Preq. senior standing and business major*

MILS 101 Basic Course Military Science 1 (2) Provides an understanding of the military, including leadership, customs/traditions of the service, principles of war, National Defense Establishment organizations, and role of the Army.

MILS 202 Basic Course Military Science 2 (2) Participation in a management/leadership simulation program, introduction to Army physical training program, participation in first aid/CPR program, and continuation of map and aerial photograph reading. *Preq. six hours of Military Science credit or departmental permission*

MILS 210 Land Navigation (2) Study of military land navigation, including map reading, use of the compass, land navigation, terrain association techniques, and orienteering.

MILS 211-212 Ranger Operations and Techniques (2) Provides an overview of U.S. Army Ranger history, organization, and mission. Small unit tactics, leadership, patrolling techniques, marksmanship, rappelling, and land navigation.

MILS 213-214 Military Drill and Ceremonies (2) Provides an understanding and practical experience in military drill, color guards, and ceremonies.

MILS 216 Military Equipment, Weapons, and Marksmanship (2) Provides an opportunity for practical experiences in the use and handling of military weapons and equipment with an emphasis on marksmanship training. Students who successfully complete the course are eligible to enter advanced military science training with departmental permission.

MILS 217 The Soviet Armed Forces (2) Introduction to the Soviet Armed Forces, the organization, doctrine, equipment, and the soldier. An insight into the positive and negative influences that affect the Russian soldier of today.

MILS 218 Military Tactics (2) Introduction to weapons capabilities, the principles of war and military organizations, and basic tactics.

MILS 219 The Military as a Profession (2) An examination and evaluation of a career as an Army officer. Duty, pay and benefits, professionalism, responsibilities, promotion, travel, and education.

MILS 220 Military Leadership (2) An examination of successful leadership traits, styles, and techniques as they relate to the development of effective military organizations.

MILS 221 Army Physical Readiness Program (1) A physical training program consisting of Army conditioning drills, exercises, and grass drills.

MILS 251 ROTC Basic Camp (3) Non-resident. Six-week camp consisting primarily of applicatory training conducted during the summer at Fort Knox, Kentucky. It is designed to replace the first two years of on-campus ROTC training.

MILS 299 Special Topics (1-4) Special topics in military science which will vary from quarter to quarter. Students select projects which meet with faculty approval.

MILS 301-302 Advanced Physical Training Lab (3) Analysis of the leader's role in directing and coordinating the efforts of individuals and small units in the exercise of tactical missions. Application work emphasizing the duties and responsibilities of junior leaders. *Preq. MILS 101, 202, and and permission*

MILS 301L-302L Advanced Physical Training Lab (1) Designed to introduce the Army Physical Readiness Program and to prepare the cadet for ROTC Advanced Camp. Emphasis is on physical conditioning and leadership.

MILS 303 Advanced Military Science 3

MILS 303L Advanced Physical Training Lab 3

MILS 351 ROTC Advanced Camp (3) Six-week period of realistic applicatory training conducted at an active army post or camp to supplement and reinforce the instruction presented on campus. Mandatory for advanced course.

MILS 401 Advanced Course Military Science 4 (3) An examination of Battalion Staff Officers and their duties. Students perform actual duties of active duty counterparts. Also, they study Army counseling, training management, Army logistics, and Army personnel. *Preq. MILS 351*

MILS 401L-402L Advanced Physical Training Lab 4 (1) Course emphasizes the planning, implementation, and supervision of the Army Physical Readiness Program. Designed to prepare the cadet for successful completion of the Officers' Basic Course.

MILS 402 Advanced Course Military Science 4 (3) Advanced training in command and staff functions, training management and evaluation, in-depth study of current military law, military ethics and professionalism. Preparation for commissioning and the Officers' Basic Course. *Preq. MILS 301-302*

MILS 403 Advanced Military Science 4

MILS 403L Advanced Physical Training Lab 4

MLTC 111 Medical Laboratory Orientation (1) Introduction to the profession of Medical Laboratory Technology, including history, philosophy, development, educational requirements, current trends, and role and responsibilities of the medical lab technicians. Ethics, employment opportunities, certification and licensure, professional organizations, interpersonal relationships, and basic medical terminology are also presented.

MLTC 112 Basic Laboratory Skills (4) Introduction to basic laboratory procedures and techniques. Emphasis is placed on phlebotomy, microscopy, spectrophotometry, pipetting, use of centrifuges, analytical balances, bookkeeping, lab safety, and other basic laboratory instruments. Laboratory mathematics, particularly in solution preparations, dilution, calculation of concentrations, and standard curve are included. *2 lec. 6 lab*

MLTC 201 Urinalysis (3) Physical, chemical, and microscopic examination of urine. Theory and applications of various laboratory tests in relation to kidney function. Brief discussion of other important body fluids. *2 lec. 3 lab*

MLTC 202 Immunoserology (3) Introduction to basic immunology with emphasis on the principles and applications of serological techniques in diagnostic tests. *2 lec. 3 lab*

MLTC 203 Blood Banking (4) Lectures and laboratory procedures in blood banking. Principles of blood grouping and human blood group genetics. Routine procedures for pretransfusion testing, antibody screening, and identification. Donor selection, blood collection, and processing are discussed. Hemolytic diseases of the newborn, preparations of blood components, and their storage and utilization are also introduced. *Preq. MLTC 202; 2 lec. 6 lab*

MLTC 204 Parasitology (1) Introduction to medically important human parasites. Emphasis is on collection, preservation, and laboratory identification. *Preq. BIOL 235; 1 lec. 2 lab*

MLTC 207 Clinical Microbiology (5) Diagnostic procedures for identification of medically important bacteria and fungi. Emphasis is on the morphological, cultural, biochemical, and serological characteristics of various pathogenic bacteria and fungi. *Preq. BIOL 235; 3 lec. 6 lab*

MLTC 209 Hematology 1 (4) Basic laboratory methods in hematology, including cell counting, hemoglobinometry, and cell morphology. Detailed studies of blood cell maturation and development and abnormalities in peripheral blood and in bone marrow with emphasis on red cells and anemias. *2 lec. 6 lab*

MLTC 210 Hemostasis (1) Study of hemostatic mechanism and hemorrhagic disorders as well as their laboratory evaluations. *3 lec. and lab combined*

MLTC 211 Hematology 2 (3) Continuation of MLTC 209 with emphasis on white cells, leukemias and special procedures in the study of blood diseases. *Preq. MLTC 209, 210; 2 lec. 3 lab*

MLTC 212 Clinical Chemistry 1 (4) Principles, practices, and techniques of analyses of chemical components in serum, as well as other body fluids, are studied. Instrumentation associated with specific analyses is introduced. Emphasis on the specific chemical reactions and/or analytical principles, sources of error, quality control, practical applications, and theoretical aspects of the above procedures as related to normal and abnormal states. *2 lec. 6 lab*

MLTC 213 Clinical Chemistry 2 (4) Continuation of MLTC 212. *Preq. MLTC 212; 2 lec. 6 lab*

MLTC 215 Lab Simulation (3) A simulated laboratory environment is designed for students to participate in performing various tests in chemistry, hematology, urinalysis, blood banking, coagulation, and microbiology. Students are required to organize their work assignments, complete the assignments efficiently, and monitor quality control within established criteria. *9 lab*

MLTC 216 Medical Technology Seminar (1) Issues and trends in Medical Laboratory Technology, government regulations, professional development, employment opportunities, resume writing, and job-seeking skills are discussed.

MLTC 217 Case Studies (1) In conjunction with MLTC 215, students present case studies assigned in MLTC 215 to interpret and evaluate the clinical correlations and significance of the lab data.

MLTC 220 Clinical Practicum 1 (4) Eighteen weeks of internship providing a practical application of the skill and knowledge learned during the previous quarters of the curriculum. Students are assigned to accredited hospital laboratories as trainees. The rotation schedule consists of three weeks in Hematology-Coagulation, four weeks in Chemistry, four weeks in Microbiology, four weeks in Blood Banking, and two weeks in Urinalysis. *Preq. completion of all required MLTC courses with a minimum of "C" in each and a minimum GPA of 2.0*

MLTC 221 Clinical Practicum 2 (3) Continuation of MLTC 220.

MLTC 225 Special Problems in Med Lab (3) Review of problems and progress during clinical practicum. Students are required to keep a daily log of the scope and degree of activities in the laboratory. The log book will be filed with the department at the end of the clinical practicum. Students are also required to participate in laboratory inservice activities (and/or professional meetings if possible). Review exercises during the clinical rotation and a four-day Registry Exam review at the end of the internship are included.

MLTC 226 Special Topics in Med Lab (2) Individualized study of Medical Laboratory Technology in a selected area of interest: laboratory instrumentation, lab management, quality control, laboratory computer, hematology, clinical chemistry, immunology, immunohematology, microbiology, and histology. The selected topic has

to be approved by the faculty member and the clinical coordinator. The student is required to do library and/or laboratory studies, and a typewritten report on the topic will be submitted to the department before the end of the clinical practicum.

MRKT 310 Marketing Principles (4) A study of the marketing principles, concepts, strategies, and analytical methods used by organizations to market products, services, and ideas in dynamic environments. Emphasis on identifying marketing opportunities, defining target groups, developing appropriate products, promotion distribution, and pricing strategies.

MUSI 100 Introduction to Music Theory (3) Developmental theory course used to make up deficiency. Introduction to staff, pitch, rhythmic notations, chords, ear training.

MUSI 101 Music Theory 1 (3) Melodic, harmonic, and rhythmic principles of music and notation. *Preq. theory placement exam*

MUSI 102 Music Theory 2 (3) Continuation of MUSI 101. *Preq. MUSI 101*

MUSI 103 Music Theory 3 (3) Continuation of MUSI 102. *Preq. MUSI 102*

MUSI 120 Introduction to Music Literature (3) Development of listening skills for understanding elements of musical style in historical perspective and significance of music as a fine art.

MUSI 121 Introduction to Baroque Music (3) Study of selected works from Baroque style periods through readings, tapes, recordings, and other media. *Preq. MUSI 120 or permission; non-humanities majors*

MUSI 122 Introduction to Music of the Classical and Romantic Periods (3) Study of selected works from the Classical and Romantic style periods through readings, tapes, recordings, and other media. *Preq. MUSI 120 or permission; non-humanities majors*

MUSI 123 Introduction to 20th Century Music (3) Study of selected works of 20th Century, both traditional and electronic, through readings, scores, tapes, recordings, and other media. *Preq. MUSI 120 or permission; non-humanities majors*

MUSI 160 Fundamentals of Music (3) Principles of notation, meter, major, and minor scales, rhythmic and melodic reading, singing, and keyboard.

MUSI 161 Music for the Classroom Teacher (3) Methods of teaching elementary music with emphasis on singing, playing instruments, and rhythmic body movements. *Preq. MUSI 160 with minimum grade of C*

MUSI 170 Class Voice (1) Basic techniques of voice production: breathing, diction, projection, tone-color, and interpretation. Repeatable for credit—maximum of six quarters. *Preq. music reading must be taken in sequence or by permission*

MUSI 180 College Chorus (2) Repeatable for credit—maximum of three quarters. *Preq. permission of instructor (audition); 4 lab*

MUSI 181 College Band (2) Repeatable for credit—maximum of three quarters. *Preq. permission of instructor (audition); 4 lab*

MUSI 185 Vocal Ensemble (2) Repeatable for credit—maximum of six quarters. *Preq. permission of instructor (audition); 4 lab*

MUSI 186 Instrumental Ensemble (2) Repeatable for credit—maximum of six quarters. *Preq. permission of instructor (audition); 4 lab*

MUSI 190 Piano Class 1 (1) Study of scales and finger techniques for beginning players.

MUSI 191 Piano Class 2 (1) Continuation of MUSI 190.

MUSI 192 Piano Class 3 (1) Continuation of MUSI 191.

MUSI 220 Music Literature (3) Survey of musical forms, styles, and performance media from Gregorian to present. Humanities majors.

MUSI 230 Music-Theater (3) Participation through production or performance of selected musical theater projects.

MUSI 270 Intermediate Class Voice (1) Continuation of MUSI 170 series. Repeatable for credit—maximum of six quarters. *Preq. permission of instructor*

MUSI 280 Intermediate Chorus (2) Continuation of MUSI 180 series. Repeatable for credit—maximum of three quarters. *Preq. permission of instructor*

MUSI 299 Topics in Music (1-4) Study of various music topics not otherwise available to students: folk and country, rock forum. Repeatable for credit—maximum of three quarters.

MUSI 361 Teaching Music in Elementary Grades (3) Materials and methods for teaching elementary vocal music. *Preq. MUSI 103*

MUSI 370 Applied Voice (1) Repeatable for credit—maximum of six quarters. *Preq. music minor; permission of instructor*

MUSI 371 Applied Piano (1) Repeatable for credit—maximum of six quarters. *Preq. music minor; permission of instructor*

MUSI 372 Applied Organ (1) Repeatable for credit—maximum of six quarters. *Preq. music minor; permission of instructor*

MUSI 373 Applied Woodwind (1) Repeatable for credit—maximum of six quarters. *Preq. music minor; permission of instructor*

MUSI 374 Applied Brass (1) Repeatable for credit—maximum of six quarters. *Preq. music minor; permission of instructor*

NTSC 485S Community Involvement (Core Course) (2) Community Involvement is an outgrowth of the purposes and objectives of the University. The series of activities integral to the Community Involvement course enhance the education of the student, complement the senior seminar, and communicate to the students their obligation to human beings in need and society at large.

NTSC 490S Senior Seminar (Core Course) (4) This course provides an opportunity for students to place their chosen field of study in an interdisciplinary context with intellectual, ethical, and historical perspectives. The seminar focuses on the synthesis and integration of various concepts by applying them to the analysis and solution of problems chosen in the context of their academic disciplines. Oral and written presentations of the seminar paper are required.

OTAT 101 Introduction to Occupational Therapy (4) Introduction to the profession of occupational therapy, the roles and functions of occupational therapy personnel, the areas of occupational performance, and the theoretical basis of using goal-directed activities. *F; Preq. enrollment in OTA program*

OTAT 102 Therapeutic Media 1 (3) Introduction to the analysis and therapeutic application of activities. Includes skill development in selected activities, instruction of peers in an activity, and participation in proper care and maintenance of equipment and supplies. *Sp, Su; Preq. OTAT 202*

OTAT 105 Medical Terminology (2) Introduction to medical terminology commonly used in health occupations. Emphasis is placed on prefixes, suffixes, and building and analyzing medical terms. *(Also listed as AHNR 102, PTAT 101, and RPTT 100) Su, F; Preq. enrollment in OTA program*

OTAT 106 Occupational Therapy in Geriatric Program Planning (4) Introduction to and application of occupational therapy in the treatment of older adults. Emphasis is on developing and implementing both activity and rehabilitative programs in agencies serving the elderly. *W; Preq. OTAT 210*

OTAT 108 Practicum 1 (2) Supervised clinical experience under the direction of qualified personnel in a variety of settings. Emphasis is on developing professional communication skills, learning to accurately document observations, developing an understanding of other health care professionals, and instructing a small group in an activity. See academic requirements of OTA program. *Sp; Preq. OTAT 202*

OTAT 109 Applied Anatomy and Kinesiology (2) Study and application of human anatomy and basic movement principles as used in occupational therapy. *Sp; Preq. OTAT 202*

OTAT 110 Group Dynamics (2) Study of group behavior. Practice in leading groups, observing group interactions, and participating in various types of groups. *Sp; Preq. OTAT 202, PSYC 101, SOCI 101*

OTAT 202 Disease Pathology (4) Discussion of both physical and psychosocial dysfunctions commonly referred to occupational therapy. Includes the symptoms, etiology, and treatments of various diseases. *W; Preq. OTAT 101, 105, BIOL 151*

OTAT 203 Occupational Therapy in Developmental Disabilities (6) Study of conditions which interfere with normal growth and development. Introduction to the application of occupational therapy in the treatment of developmental disabilities. Emphasis on the role of the O.T. assistant in treatment of developmental disabilities particularly in the public school setting. *Su; Preq. OTAT 108, 109, 110, PSYC 101, 151*

OTAT 204 Practicum 2 (3) Similar to OTAT 108 but in different types of settings. *Su; Preq. OTAT 108, 109, 110*

OTAT 205 Therapeutic Media 2 (3) Analysis, adaptation, and therapeutic application of weaving and woodworking. *F W; Preq. OTAT 101*

OTAT 208 Practicum 3 (3) Supervised clinical experience under the direction of qualified personnel in a variety of settings. Continuation of skill development of OTAT 204 with additional emphasis on case study, treatment planning, and occupational therapy treatment techniques. *F; Preq. OTAT 204*

OTAT 210 Occupational Therapy in Physical Disabilities (6) Exploration of occupational therapy theories in the evaluation and treatment of physically disabling conditions. Lab emphasis on instruction of activities of daily living, work simplification, energy conservation, and fabrication of orthotic and adaptive devices. *F; Preq. OTAT 203, 204*

OTAT 211 OTAT Seminar (2) Discussion of the professional roles and responsibilities of the occupational therapy assistant. Includes orientation to licensure, certification, legal and ethical issues, peer review, and other current professional issues. *W; Preq. OTAT 208, 210*

OTAT 212 Occupational Therapy in Mental Health (4) Exploration of occupational therapy theories in the evaluation and treatment of psychosocial dysfunction. Lab emphasis on the development of observation skills, group dynamics, group leadership, effective communication, and therapeutic use of self. *W; Preq. OTAT 208, 210, PSYC 101, 151, SOCI 101*

OTAT 220-221 Clinical Application (6 ea.) Supervised fieldwork placement. Experience in and responsibility for delivery of service to patients/clients. Emphasizes the application of academically acquired knowledge leading to the performance of an entry-level occupational therapy assistant. See academic and clinical requirements of OTA program. *Sp, Su; Preq. successful completion of all OTA and other required courses*

PENG 101 Introduction to Plastics (3) An introductory overview of the different plastic resins, processing methods, and terminology. Lectures cover different types of plastic, identification tests, polymerization, molecular growth, and processing methods. Laboratory experiences in extrusion, injection, thermoforming, compression, and other molding and fabricating operations.

PENG 102 Machine Tools 1 (3) The basics of metal chip making technology. Topics include safety, measurements, bench work, drilling, turning, shaping, planing, milling, and grinding. Properties and uses of ferrous and non-ferrous alloys, cutting fluids, welding, and foundry practices. Laboratory experiences include chip making processes and tooling methods.

PENG 103 Extrusion Molding (3) Techniques of plastics extrusion and blow molding operations, profiles, pipe, sheet, blown film, extrusion coating, wire and cable covering, thread (monofilaments), and various blow molding methods. Laboratory experiences include the setup and operation of extrusion, film, and blow molding equipment. *Preq. PENG 101 or advisor approval*

PENG 104 Thermoforming (3) Lectures covering thermoforming processes with emphasis on forming equipment and the appropriate mold design processes. Characteristics of plastics commonly used in thermoforming are utilized in designing, fabricating, and molding laboratory projects. *Preq. PENG 101, 102, ENDR 101, or advisor approval*

PENG 105 Injection Molding (3) Various types of injection molding processes: reciprocating screw, plunger, hot tip, hot runners, jet, coinjection, thermoset, preplasticizers, screw pot, RIM. Laboratory experience includes operation of injection molders, programming of microprocessors, and field trips. *Preq. PENG 101 or advisor approval*

PENG 201 Thermal Molding Machine Controls (4) Industrial control mechanisms and basic pneumatic, hydraulic, electrical, electronic, and thermal control systems encountered in most plastic processing systems. *Preq. PENG 101, ENDR 101, or advisor approval*

PENG 202 Production Control and Planning (4) Basic concepts of production planning and control methodologies, inventory planning, production development, capacity consideration, costs, and break-even. Planning, scheduling, and simulation exercises. *Preq. PENG 101, MATH 130, or advisor approval*

PENG 203 Testing of Plastic Material (3) Study of testing materials and the mechanical, thermal, electrical, optical, weathering, flammable, and environmental characteristics of plastic resins. ASTM experiments and written technical reports on the property changes of plastics under various conditions. Introduction of statistical quality control methods as related to material testing. *Preq. PENG 101, MATH 130, 131, or advisor approval*

PENG 205 Plant Layout and Materials Handling (3) Principles of plant layout and materials handling are used to obtain effective utilization of workers, materials, and machines as related to facilities and efficient application of all resources. CADD exercises as related to P.L. development. *Preq. PENG 101, ENDR 101, or advisor approval*

PENG 206 Introduction to Polymer Science (3) Introduction to structure and properties of plastics, textile fibers, and elastomers. The synthesis and characterization of polymers by chemical and physical methods. *Preq. CHEM 122 or 305 or advisor approval*

PENG 207 Fundamentals of Processing Equipment and Maintenance (2) Study of electrical and piping diagrams, heat exchangers, and reactors commonly used in the chemical industry. Emphasis on preventive maintenance methods. *Preq. PENG 101, ENDR 101, or advisor approval*

PENG 209 Fabrication and Finishing of Plastics Production (4) Study of industrial manufacturing methods not encountered in the previous courses. Includes printing, cementing, electroplating, metallizing, hot stamping, polishing, welding, engraving, and machining. Special emphasis on compression, transfer, SMC, BMC, TMC, and FRP processes. *Preq. PENG 101, 102, ENDR 101, or advisor approval*

PENG 210 Properties of Polymeric Materials (4) Basic design considerations in use of polymeric materials. Because of applications-oriented approach, the reasons for using designs or polymeric are presented. Extensive usage of tables on properties and shapes. *Preq. PENG 101, 203, or advisor approval*

PENG 240 Plastics Processing 1 (3) Basic topics in the processing of thermoplastic resins. Hands-on operation of molding machines and introduction to principles of processing of thermoplasics. *Preq. PENG 101; preq. or co-req. CHEM 143; 2 lec. 3 lab*

PENG 241 Plastics Processing 2 (3) Continuation of PENG 240. Continuation of the study of the processing of thermoplastic resins. *Preq. PENG 240; 2 lec. 3 lab*

PENG 242 Plastics Processing 3 (3) Basic topics in the processing of thermoset resins. Hands-on operation of molding machines and introduction to principles of processing of thermoset resins. *Preq. PENG 241; 2 lec. 3 lab*

PHAR 101 General Pharmacology (4) Introduction to the general principles of pharmacology. Calculations, drug classification, and the sites and mechanisms of drug action.

PHIL 100 Basic Survey of Philosophy (4) Introduction to philosophy through selected primary texts from ancient Greece to the modern era.

PHIL 101 Fundamentals of Philosophy (4) Survey of basic problems, concepts, and methods in philosophy.

PHIL 102 Introduction to Logic (4) Use of evidence in establishing reliable conclusions.

PHIL 103 Moral Philosophy (4) Discussion of classic and/or modern philosophical views of human values, ideas, and morality. Provides an introductory survey of some of the main problems, concepts, and results of ethics, including selected philosophies of past and present.

PHIL 105 Rhetoric and Critical Thinking (4) The use and abuse of language in everyday life, especially in advertising, politics, and education.

PHIL 110 Elements of Symbolic Logic (4) Deductive reasoning and formal logic from Aristotle to the early 20th century.

PHIL 200 Philosophy and Education (4) Theories of teaching and learning from ancient Greece to the contemporary classroom.

PHIL 201 Business Ethics (4) Examination of the relations between economic and moral constraints.

PHIL 202 Environmental Ethics (4) How and to what extent humans have responsibilities for and obligations to the natural environment. Does nature teach ethics?

PHIL 203 Medical Ethics (4) Moral issues in medical decision making. The rights of patients, families, society, and medical peers.

PHIL 204 Philosophy of Technology (4) Social and political implications of advances in information processing, bio-engineering, surveillance, and warfare.

PHIL 231 Existentialism (4) The meaning of life, the immanence of death, the absurdity of existence, and the burden of choice.

PHIL 240 Philosophy and Religion (4) The spiritual traditions of Judaism, Catholicism, and Protestantism: comparisons and contrasts.

PHIL 250 Oriental Philosophy (4) The spiritual traditions of Hinduism, Buddhism, Confucianism, and Taoism.

PHIL 300 Philosophy in Film (4) Viewing and discussion of international films to raise moral, aesthetic, and ethical issues.

PHIL 320S Ethics in Public and Private Life (4) Personal, familial, social, and professional value decisions: how to recognize and make them.

PHIL 361 Topics in American Pragmatics (4) Pierce, James, Dewey, Royce, Santayana, and the development of American philosophy.

PHIL 371 Topics in Contemporary Philosophy (4) Recent accounts of knowledge, reality, death, interpretation, language, and history.

PHIL 400 Capitalism, Socialism, and Democracy (4) Examination of interrelationships between economics, social theory, and political philosophy.

PHYS 099 Fundamental Physics (4) A course intended for special programs and not considered a prerequisite for the college entry-level physics courses. Students desiring a basic course in physics should refer to PHYS 201.

PHYS 201 Physics 1 (Mechanics) (4) Basic measuring systems, methods, and conversions and calculations for physics. Properties of solids, liquids, and gases. Statics and motion, friction, work, power, energy, simple machines. Laboratory and demonstrations related to lecture. *Preq. MATH 130 or equivalent; 3 lec. 3 lab*

PHYS 202 Physics 2 (Electricity) (4) Introduction to electrical circuitry with emphasis on electrical physics. The nature of magnetism and electrostatics, electrical units, basic direct-current circuits, Ohm's law, electrical measurement, sources and effects of electrical current, electric power and energy, electromagnetism and electromagnetic induction, properties of alternating current, simple AC circuits, generators, and motors. *Preq. PHYS 201; 3 lec. 3 lab*

PHYS 203 Physics 3 (Heat, Light, Sound) (4) Fundamental properties and basic principles of heat, light, and sound. *Preq. PHYS 201; 3 lec. 3 lab*

PHYS 210 Astronomy (4) Fundamental ideas of astronomy. Topics include the solar system, stars, galaxies, black holes, and the history of ideas about the universe. *Preq. PSCI 110S; 3 lec. 3 lab*

PHYS 290 Seminar in Physics (1-4) Discussion of advanced topics in physics.

PHYS 295 Independent Study (1-4) Independent physics investigation under the direction of a faculty member.

PHYS 299 Special Topics in Physics (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

PHYS 311 Calculus-Based Physics 1 (4) Introductory survey of mechanics for science and engineering students. Introduces the use of calculus in interpreting physical phenoma. Topics include vectors, kinematics, dynamics, energy, momentum, rotation, and statics. *Preq. or co-req. MATH 201*

PHYS 312 Calculus-Based Physics 2 (4) Introductory survey of electricity and magnetism. Uses calculus in interpreting physical phenomena. Topics include static electric and magnetic fields, DC circuits, induced currents, electromagnetic forces, and inductance and capacitance. *Preq. PHYS 311, co-req. MATH 202*

PHYS 313 Calculus-Based Physics 3 (4) Introductory survey of thermodynamics and wave phenoma. Uses calculus in interpreting physical phenomena. Topics include heat, transmission, reflection, refraction, diffraction, and interference of sound and light. *Preq. PHYS 313, co-req. MATH 202*

PHYS 390 Seminar in Physics (1-4) Discussion of advanced topics in physics.

PHYS 485 Senior Project (1-4) In-depth study of a selected topic in physics culminating in the preparation of a senior paper. *Preq. junior or senior standing*

PHYS 490 Seminar in Physics (1-4) Discussion of advanced topics in physics. *Preq. junior or senior standing*

PHYS 495 Undergraduate Research (1-4) Independent physics investigation under the direction of a faculty member. *Preq. junior or senior standing*

PHYS 499 Special Topics in Physics (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students. *Preq. junior or senior standing*

PSCI 101 Physical World (4) Designed for non-science majors. Fundamental topics in meteorology include atmosphere, winds, clouds, storms, and weather. Topics in geology include rocks and minerals, gradation, earthquakes, continental drift, and the ocean. *3 lec. 3 lab*

PSCI 105 Physical Science (5) A course designed for students of nursing and other health technologies, stressing the principles of physics and chemistry relevant to the health sciences. Meaningful applications in common experiences also are noted, so the course should be worthwhile for students in other fields who would like a health-science emphasis. *Preq. MATH 105; 4 lec. 3 lab*

PSCI 110S Physical Science (Core Course) (4) Explores the depth and breadth of the physical sciences. Science is presented as a human activity that helps us perceive order in our surroundings, making our world understandable. The relationship between science, society, and current issues are examined.

PSCI 299 Topics in Physical Science (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students.

PSYC 098 Learning Orientation (4) Techniques for learning definitions, vocabulary, lists, etc. to assist in academic achievement. (The four hours of credit do not apply toward a degree but do apply toward total hours accumulated at the University.)

PSYC 099 Pre-Anatomy (4) Students are prepared for anatomy by learning medical roots, muscles, bones, body planes, and medical abbreviations. This is a special course developed primarily for allied health and nursing programs. (The four hours of credit do not apply toward a degree but do apply toward total hours accumulated at the University.)

PSYC 101 Introduction to Psychology (4) A study of the individual in terms of maturational, learning, thinking, emotional, motivational, sensory, and perceptual processes. Required course for all social science majors.

PSYC 105 Career Planning (4) This course helps students explore their values, interests, and skills in relation to careers and choosing a college major. Special emphasis on career counseling. Career exploration on the computer is available.

PSYC 150 Principles of Statistics (4) Introduction to the vocabulary, concepts, formulas, and presentation of statistics as applied to business, education, and science. Measures of central tendency and dispersion; probability applied to joint probability tables and Bayes' Theorem; probability distributions with emphasis on Binomial and Normal; sampling practices and theory; and calculator and computer use. Cross-listed as SOCI 150, MATH 150. *Preq. MATH 101*

PSYC 151 Human Growth and Development (4) Study of the factors affecting human growth and development through the life cycle from infancy to advanced maturity. Designed for students in two-year allied health programs. Not for social science majors. *Preq. PSYC 101*

PSYC 250 Neurobiology of Behavior (4) Basic neurology, neurophysiology, and neuropharmacology, with emphasis on how they relate to human behavior. *Preq. BIOL 101 or PSYC 101*

PSYC 273 Human Adjustment (4) An examination of the individual's adjustments and conflicts in modern society. Considers problem solving strategies and anxiety reducing behavior. Required course for all social science majors. *Preq. PSYC 101*

PSYC 299 Topics in Psychology (1-4) Courses repeatable for credit. *Preq. PSYC 101 and/or permission*

PSYC 300 Theories of Personality (4) Understanding of human personality through examination of psychoanalytic, humanistic, and learning theories and current biologically-based research on personality. *Preq. PSYC 101*

PSYC 303 Introduction to Social Psychology (4) Behavior of the individual as influenced by other individuals, social groups, and culture. Examines group dynamics, leadership, attitude, and group conflict. *Preq. PSYC 101*

PSYC 304 Psychology of Learning (4) Study of learning: classical and instrumental conditioning, discrimination, generalization, verbal, information processing, memory, problem solving, and concept formation. *Preq. PSYC 101*

PSYC 310 Child Psychology (4) A survey of the course of development during the first 12 years of life, with emphasis on patterns of physical, cognitive, and mental development; parent/child relations; and the influences of TV and divorce on children. *Preq. PSYC 101*

PSYC 312 Adolescent Psychology (4) Study of major theories of adolescent development and explanation of biological, cognitive, social, emotional, and personality processes. Focus is on recent trends and changes in family relationships, adolescent autonomy, educational and vocational roles, moral development and religion, teenage creativity, depression, substance abuse, eating disorders, runaways, suicide, pregnancy, and parenthood. *Preq. PSYC 101*

PSYC 316 Behavior Problems in Children (4) Analysis of personal and school-related problems of children. Cases of behavior problems with specific intervention techniques. *Preq. PSYC 101*

PSYC 351 Life Span Developmental Psychology (4) An in-depth examination of psychological aspects of human growth, development, and adaptation throughout the life span. *Preq. PSYC 101*

PSYC 360 Drugs, Alcohol, and Tobacco (4) In-depth study of drugs, alcohol, and tobacco. The nature of the action, motivational forces that influence their use, and procedures to provide effective education in the school and the home.

PSYC 361 Industrial Psychology (4) Applies social/psychological approach to individual's work behavior. Topics include management approaches to organizational processes resulting in productivity and satisfaction, change, turbulent environment, and psychologist's role. *Preq. PSYC 101 or SOCI 101*

PSYC 375 Educational Psychology (4) Psychological foundations of education with emphasis on learning, transfer, motivation, and evaluation. *Preq. PSYC 101*

PSYC 400 Abnormal Psychology (4) Study of anxiety, mood, psychotic, personality, and psychoactive substance use disorders as well as substance-induced organic mental disorders. Several theories and strategies of psychotherapy are examined during discussion of each disorder. *Preq. at least 12 credit hours of PSYC*

PSYC 405 Death and Dying (4) Focus on increased ability to deal with one's own mortality; skills for working with terminally ill and their families; understanding the complex social system of death in American society; and moral, ethical, and philosophical issues surrounding death. Cross-listed as SOCI 405. *Preq. PSYC 101 or SOCI 101*

PSYC 410 Psychology of Counseling (4) Survey of the basic concepts and theories of counseling: psychodynamic, behavioral, cognitive, and humanistic. Focus is on individual and group counseling, including school, career, family and marriage, mental health, cross-cultural, crisis intervention, and consultation. *Preq. 20 credit hours of PSYC and/or permission*

PSYC 420 Community Psychology (4) Analysis of historical precedents, epidemiology, community resources, primary prevention programs, and the role of psychologists as agents of social change. *Preq. PSYC 101*

PSYC 499 Special Topics in Psychology (1-4) Individual or small-group study, under the supervision of instructor, of topics not otherwise available to students. *Preq. senior standing and permission*

PTAT 101 Medical Terminology (2) Introduction to medical terminology commonly used in health occupations. Emphasis is placed on prefixes, suffixes, and building and analyzing medical terms. *(Also listed as AHNR 102, OTAT 105, and RPTT 100)*

PTAT 111 Principles of Physical Therapist Assistant (3) The purpose, philosophy, history, and development of the physical therapy profession. Includes medical ethics, the function of the American Physical Therapy Association, and the development of the physical therapist assistant (duties, function, legal responsibilities, and limitations). *Preq. admission to PTA program*

PTAT 112 Physical Therapist Assistant Procedures 1 (5) The first of three sequential procedure courses. Basic physiology and theory of heat, hydrotherapy, cold, massage, body mechanics, burns, patient positioning, and traction. Therapeutic application of these modalities. *Preq. PTAT 101, 111; 3 lec. 6 lab*

PTAT 113 Physical Therapist Assistant Procedures 2 (5) Theory and therapeutic application of modalities, such as low and high frequency currents, biofeedback, TENS, Jobst extremity pump, and diathermy. *Preq. PTAT 112; 3 lec. 6 lab*

PTAT 114 Anatomy and Kinesiology (5) Advanced anatomy course designed specifically for the physical therapist assistant. Origin, insertion, function, and dysfunction. *Preq. PTAT 113, BIOL 295; 3 lec. 6 lab*

PTAT 115 P.T. in Physical Dysfunction (3) Discussion of physical dysfunctions commonly referred to physical therapy. Includes symptoms, etiology, and treatments of various diseases. *Preq. PTAT 113*

PTAT 202 Physical Therapist Assistant Procedures 3 (5) Principles of muscle testing, goniometry, joint range of motion, flexibility, coordination, gait training. Exercises for specific joints, diseases, and medical conditions. *Preq. PTAT 113; 3 lec. 6 lab*

PTAT 212 Clinical Practicum 1 (4) Second experience in clinical setting in which the student performs theories and techniques for patient care under close supervision of a licensed physical therapist. *Preq. PTAT 114, 115, 216; 2 lec. 12 clinical*

PTAT 213 Clinical Practicum 2 (4) Intermediate experience in clinical settings performing previously learned theories and techniques under supervision of a licensed physical therapist. *Preq. PTAT 212, 202, 231; 2 lec. 12 clinical*

PTAT 214 Clinical Practicum 3 (6) Advanced experience in clinical setting. *Preq. PTAT 213, 232, 255; 38 clinical*

PTAT 216 Clinical Practicum Seminar (2) Introductory experience in clinical setting. Students perform theories and techniques of patient care under close supervision of licensed physical therapist. Procedures and techniques discussed in seminar. *Preq. PTAT 101, 111, 112; 1 lec. 4 clinical*

PTAT 231 Rehabilitation Procedures 1 (4) Rehabilitation skills relating to orthopedic principles. Includes study of prosthetics, orthotics, fractures, postural deviations, and cardiac rehabilitation. *Preq. PTAT 113; 3 lec. 3 lab*

PTAT 232 Rehabilitation Procedures 2 (4) Rehabilitation skills needed for treatment of central nervous, peripheral nervous, and respiratory systems. Included are stroke rehabilitation, spinal cord injuries, pediatrics, and postural drainage. *Preq. PTAT 231; 3 lec. 3 lab*

PTAT 235 Physical Therapy Trends and Administrative Procedures (2) Identification of concepts, techniques, and administrative skills used in the efficient operation of physical therapy department. Special emphasis on establishing and maintaining patient records. *Preq. PTAT 212*

PTAT 255 PTA Seminar (2) Students present case studies of patients treated in their clinical assignments. Special procedures and techniques are discussed as well as problems encountered. *Co-req. PTAT 214*

RDLT 101 Radiologic Technology 1 (4) A course designed to acquaint the student with the goals, philosophies, and organizations of the radiography program and the radiology department. Medical ethics, medicolegal considerations, elementary radiation protection, fundamentals of radiographic exposure, and radiographic positioning of the chest and abdomen are covered. *Preq. admission to radiologic technology program*

RDLT 102 Radiologic Technology 2 (4) Concentration on radiographic positioning of the appendicular skeleton with application of theory in the laboratory. Selected clinical experiences reinforce learning and provide the opportunity to apply principles and techniques. *Preq. RDLT 101*

RDLT 103 Radiologic Technology 3 (3) Concentration on radiographic positioning of the axial skeleton with application of theory in the laboratory. *Preq. RDLT 102*

RDLT 104 Radiologic Technology 4 (3) Concentration on radiographic procedures using contrast media, radiographic practices for surgery, pediatric radiography, and other specialized areas of radiography. *Preq. RDLT 103, 201*

RDLT 105 Radiologic Technology 5 (3) Continuation of RDLT 104 with emphasis on vascular and neurological examinations, including analysis of equipment used. *Preq. RDLT 104*

RDLT 106 Radiologic Technology 6 (3) Examination of advanced radiographic techniques and imaging modalities, including technic charts, quality control, fluoroscopy, image intensifiers, conventional tomography, stereo radiography, xeroradiography, computer literacy, computed tomography, and other specialized areas of imaging. *Preq. RDLT 105*

RDLT 107 Radiologic Technology 7 (3) A series of lectures on pathologic conditions and their impact on the radiographic process. Includes student participation in film evaluation and case studies. *Preq. RDLT 106*

RDLT 108 Radiologic Technology 8 (2) Designed as a self assessment of the independent cognitive areas utilized in the clinical situation. *Preq. RDLT 107, 113*

RDLT 111 Radiologic Physics (4) A study of the fundamentals of matter, electrostatics, electrodynamics, magnetism, rectification, production, and properties of x-rays, x-ray tubes, and x-ray circuitry. *Preq. MATH 130, RDLT 104*

RDLT 112 Radiobiology and Radiation Protection (3) Lectures on the radiobiological areas of radiation interactions, radiosensitivity, radiation dose/response relationships, early and late radiation effects, radiation protection, and health physics. *Preq. RDLT 111*

RDLT 113 Radiographic Processing (2) Includes discussions of film characteristics, artifacts, film storage and handling, processing room design and function, methods, principles and chemistry of processing systems, silver reclamation, and quality control. *Preq. RDLT 112, 201*

RDLT 200 Basic Patient Care (3) Provides knowledge and basic skills necessary for care of the patient. Includes medical and professional ethics, medical terminology, and interpersonal relationships. *Preq. RDLT 101*

RDLT 201 Radiographic Exposure (4) Lectures on establishing and manipulating radiographic exposure factors and on the proper utilization of accessory devices such as grids, intensifying screens, and beam limitation devices. Concentration is on overall image quality, as well as factors affecting patient exposure. *Preq. RDLT 102*

RDLT 211 Clinical Experience 1 (2) Practical application of radiologic technology principles, positioning, and techniques with emphasis on upper and lower extremity examinations in the radiology departments of affiliate hospitals. Includes film critique sessions. *Preq. RDLT 102*

RDLT 212 Clinical Experience 2 (3) Continuation of RDLT 211 with emphasis on spine and skull examinations. *Preq. RDLT 211*

RDLT 213 Clinical Experience 3 (3) Continuation of RDLT 212 with emphasis on urographic, biliary, and gastrointestinal examinations. *Preq. RDLT 212*

RDLT 214 Clinical Experience 4 (3) Continuation of RDLT 213 with emphasis on gastrointestinal, portable, and advanced bonework examinations. *Preq. RDLT 213*

RDLT 215 Clinical Experience 5 (3) Continuation of RDLT 214 with emphasis on headwork, surgery, and advanced radiographic examinations. *Preq. RDLT 214.*

RDLT 216 Clinical Experience 6 (4) Continuation of RDLT 215 with emphasis on advanced imaging modalilties. *Preq. RDLT 215*

REST 210 Real Estate Principles and Practices (4) Introduction to real estate economics and administration. Includes elementary physical, legal, locational, and economic characteristics of real estate; real estate markets; and national, regional, and local economic influences on real estate values. Serves as a preparation for securing a license.

REST 212 Real Estate Law (4) Includes the law of agency as applied to real estate brokers and salesmen, law of fixtures, estates (including leases), conveyancing of real estate, real estate managers, license laws of Ohio, zoning, cooperatives, and condominiums.

REST 213 Real Estate Finance (4) Includes the nature and characteristics of mortgage loans, government influence on real estate finance, the mortgage market, and the effects of monetary and fiscal policies on real estate financing. Concepts and measurements of value, cash flow, leverage, and tax shelters are emphasized.

REST 214 Real Estate Appraisal (4) Emphasizes the methodology of appraising urban real property and the theory underlying appraisal techniques. In-depth study of market comparison, penalized cost of replacement, and income capitalization. A term project provides practical experience in applying these techniques.

REST 215 Real Estate Brokerage (4) Basics of real estate economics, brokerage, and administration. Designed for the professional development of real estate personnel and for those who are not in the real estate business but who wish to increase their general knowledge.

REST 218 Special Topics in Real Estate (4) Includes taxation, investment analysis, industrial real estate, commercial real estate, other types of income producing property, and current issues and problems facing the real estate business. *Recommended preq. REST 210, 212, 213, 214, 215*

RMMT 103 Introduction to Retailing (4) Principles and methods of retail management, including organization, policy making, location, operation, selling services, records, inventory, expense control, insurance, and the coordination of a retail business.

RMMT 104 Salesmanship (4) Basic concepts of personal selling at both the industrial and retail level, including preparation for selling, sales processes, and an introduction to sales management. Emphasis on retail selling, with a discussion of career opportunities.

RMMT 223 Retail Buying (4) Introduction to the complexity of the retail buyer's responsibilities and functions. Topics include how to determine what to buy, how much to buy, and how to price merchandise. Merchandising mathematics skills are also developed. *Preq. BMNT 102 or permission of instructor*

RMMT 225 Marketing Case Studies (4) Discussion of marketing problems in a group situation. Problems include marketing management, production planning and development, marketing research, industrial buying behavior, market segmentation, price objectives, advertising, and international marketing environment. *Preq. BMNT 102 or permission of instructor*

RMMT233 Sales Promotion (4) An in-depth study of basic communication theory and principles applied to marketing and promotional problems, including concepts of display, sales promotion techniques, and publicity. Analysis of source credibility, message structure, appeals, and consumer behavior theory involved in marketing communication problems. *Preq. BMNT 102 or permission*

RMMT 235 Advertising (4) A study of the principles of advertising, including the history and development of advertising, its relation to the marketing effort of the firm and to consumers and society in general, and the major groups of media used by the advertiser. *Preq. BMNT 102*

ROBO 210 Introduction to Robotics (4) Introduction to applications in industry. Emphasis on types, classifications, types of motion, economic impact, and safety.

ROBO 211 Robotic Interfacing (4) Study of hardware and software for connecting a programmable controller or microprocessor to a robotic arm and interfacing to peripheral machines and equipment. *Preq. ROBO 210 or advisor approval*

ROBO 212 Basic Robotic Applications (4) In-depth study of low- and medium-technology robot concepts, principles, functions, design parameters, and applications with emphasis on developing the technical skills required to specify, install, program, and operate point-to-point and controlled path robot systems. *Preq. ROBO 211 or advisor approval*

ROBO 213 Advanced Robotic Applications (4) Advanced study and training in high-technology robot operations and applications with emphasis on continuous and controlled path robots, programmable logic control systems, and production systems and operation. Extended practice in off-line programmable set-up, adjustment, and operation of robotic work cells and materials handling systems. *Preq. ROBO 212 or advisor approval*

ROBO 214 Robotic Maintenance/Servicing (4) Instruction in servicing and troubleshooting robotic and peripheral automated systems. Emphasis on mechanics, hydraulics, and associated electrical and electronics. *Preq. ROBO 213 or advisor approval*

RPTT 100 Medical Terminology (2) Introduction to medical terminology commonly used in health occupations. Emphasis is placed on prefixes, suffixes, and building and analyzing medical terms. *(Also listed as PTAT 101, OTAT 105, AHNR 102)*

RPTT 101 Basic Patient Care (3) Introduction to respiratory therapy as a profession, basic clinical assessment, and care of patients. Professional duties and responsibilities, ethics and liability, and basic patient care skills (patient assessment, record keeping, patient monitoring, pulmonary care techniques) are included. *Preq. admission to respiratory therapy program; 2 lec. 3 lab*

RPTT 102 Cardiopulmonary/Renal Anatomy and Physiology (5) Detailed presentation of the anatomy and physiology of the pulmonary, cardiac, and renal systems. Topics include basic structure and function, system interactions, and basic pathophysiology with emphasis on the pulmonary system. *Preq. admission to respiratory therapy program*

RPTT 110 Medical Gas Therapy (4) Presentation of topics related to the production, handling, and administration of medical gases, including humidity and aerosol therapy, medical gas therapy, equipment required for their administration, and the indications, contraindications, and hazards of their use. *Preq. RPTT 100, 101, 102; 3 lec. 3 lab*

RPTT 115 Clinical Application 1 (1) Introduction to the clinical setting, orientation to the hospital, and an opportunity to practice those skills and techniques learned in RPTT 101 and 110. *Preq. RPTT 100, 101, 102; 8 clinical*

RPTT 120 Perioperative Care (4) Detailed discussion of respiratory therapy techniques used before and after surgery to minimize complications. Topics include respiratory pharmacology, incentive spirometry, bronchopulmonary drainage, and intermittent positive pressure breathing. *Preq. RPTT 110, 115; 3 lec. 3 lab*

RPTT 121 Airway Management (2) A study of artificial airways, airway obstruction, and defense mechanisms of the lungs. Topics include design, selection, and insertion of artificial airways as well as protective mechanisms of the lungs. *Preq. RPTT 110, 115; 1 lec. 3 lab*

RPTT 125 Clinical Application 2 (1) Continuation of RPTT 115, with emphasis on the application of skills and techniques learned in RPTT 120 and 121. *Preq. RPTT 110, 115; 8 clinical*

RPTT 130 Pediatric and Neonatal Respiratory Care (4) Study of the pathology, pathophysiology, diagnosis, and treatment of diseases of the newborn and pediatric patient. Topics include developmental and comparative anatomy and physiology and specific respiratory care considerations required for these age groups. *Preq. RPTT 120, 121, 125*

RPTT 131 Pulmonary Function Testing (2) Study of the methods used for testing the function of the lungs. Topics include the indications and standards for testing, equipment used, interpretation, and quality control systems. *Preq. RPTT 120, 121, 125*

RPTT 132 Arterial Blood Gases/Acid Base (1) Study of the techniques for collecting and analyzing arterial blood samples and detailed discussion of the interpretation of results. Emphasis on acid-base, fluid, and electrolyte balance and regulation. *Preq. RPTT 120, 121, 125*

RPTT 133 Laboratory Procedures (1) Laboratory practice of the skills discussed in RPTT 131 and 132. *Preq. RPTT 131, 132*

RPTT 135 Clinical Application 3 (2) Continuation of RPTT 125, with emphasis on those skills developed in RPTT 131, 132, and 133. *Preq. RPTT 120, 121, 125*

RPTT 200 Pharmacology (3) Study of the general principles of pharmacology, including drug types, methods of administration, dosage, effects, indications, contraindications, and regulation. Drug groups related to respiratory care are emphasized, including bronchodilators, wetting agents, mucolytics, antibiotics, muscle relaxants, and corticosteroids. *Preq. RPTT 130, 131, 132, 133, 135*

RPTT 201 Continuous Mechanical Ventilation (6) Study of the therapeutic and diagnostic techniques used for patients receiving mechanical ventilatory support. Topics include the selection process for ventilators, indications and hazards of mechanical ventilation, maintenance of patients, respiratory and hemodynamic monitoring, and weaning of patients from ventilatory support. *Preq. RPTT 130, 131, 132, 133, 135; 4 lec. 6 lab*

RPTT 202 Pathophysiology (3) Study of the etiology, diagnosis, pathophysiology, and treatment of some of the most commonly encountered cardiopulmonary diseases. Topics include chronic obstructive pulmonary diseases and common restrictive, pleural, occupational, and cardiac related diseases. *Preq. RPTT 130, 131, 132, 133, 135*

RPTT 205 Clinical Application 4 (2) Continuation of RPTT 135 with emphasis on the skills and techniques learned in RPTT 201. *Preq. RPTT 130, 131, 132, 133, 135; 16 clinical*

RPTT 210 Critical Care (2) Study of the assessment, monitoring, and treatment of the acutely ill and traumatized patient. Topics include head and chest trauma, burns, shock, near drowning, and hemodynamic monitoring. *Preq. RPTT 200, 201, 202, 205*

RPTT 211 Advanced Cardiopulmonary Assessment (1) Study of advanced techniques for the monitoring of cardiopulmonary function. Topics include ECHO, EKG, doppler ultrasound, pulmonary stress testing, and sleep-induced respiratory disorders. *Preq. RPTT 200, 201, 202, 205*

RPTT 212 Pulmonary Rehabilitation and Home Care (2) Study of the care and management of patients receiving pulmonary rehabilitation or home care. Topics include patient selection, education, follow-up, program design, progress assessment, regulatory implications, and equipment. *Preq. RPTT 200, 201, 202, 205*

RPTT 213 Department Management (1) Introduction to the organization, planning, and management of, as well as the effect of current governmental regulations on, respiratory care services. *Preq. RPTT 200, 201, 202, 205*

RPTT 215 Clinical Application 5 (3) Continuation of RPTT 205, with emphasis on the skills and techniques learned in RPTT 210, 211, 212, and 213. *Preq. RPTT 200, 201, 202, 205*

RPTT 220 Seminar (4) Designed to provide final curricular preparation for graduation. Includes oral case presentation, program assessment, systematic content review, and a comprehensive, cumulative student evaluation. *Preq. 225*

RPTT 225 Clinical Application 6 (8) Continuation of RPTT 215 with emphasis on skills and knowledge developed in RPTT 130, 201, 210, 211, 212, and 213. *Preq. RPTT 115, 125, 135, 205, 215*

SBMT 225 Organization and Operation of Small Business (4) A course designed to provide the basics of small business: getting started, financial recordkeeping, cash flow management, computers, human resource management, marketing, pricing, advertising, and promotion. *Required in two-year concentration in small business management.*

SBMT 236 Franchising (4) A course designed for students of franchising and for those considering going into business as either a franchisor or a franchisee. Nature of franchising, franchising and the law, developing and operating the franchise business, the franchise arena, franchisee/franchisor relationships. *Required in two-year concentration in small business management.*

SBMT 290 Seminar in Small Business Problems (4) A course designed to acquaint the student with actual small business problems; structured through the Small Business Institute of the Small Business Administration and classroom case studies. *Required in two-year concentration in small business management; Preq. SBMT 225*

SOCI 101 Introduction to Sociology (4) Studies the nature of human society and factors affecting its development, including concepts of culture, groups, organizations, collective behavior, and institutions. Required course for all social science majors.

SOCI 110S Foundations of Social Science (4) Introduction to the methods and concerns of social science. Studies perspectives of anthropology, economics, history, geography, political science, psychology, and sociology as related to specific themes or topics. Part of general education core requirement.

SOCI 150 Principles of Statistics (4) Introduction to the vocabulary, concepts, formulas, and presentation of statistics as applied to business, education, and science. Measures of central tendency and dispersion; probability applied to joint probability tables and Bayes' Theorem; probability distributions with emphasis on Binomial and Normal; sampling practices and theory; and calculator and computer use. Cross-listed as PSYC 150, MATH 150. *Preq. MATH 101*

SOCI 201 Introduction to Social Welfare (4) Overview of the field of social welfare with equal emphasis on fundamental concepts and services in social welfare and current and emerging tasks in the profession of social work.

SOCI 205 Current Social Problems (4) An overview of major perspectives on social problems and their relevance in contemporary life. Topics include poverty, sexism, racism, aging, alienation, crime, human ecology, and colonialism in the third world. *Preq. SOCI 101*

SOCI 210 Women in Society (4) A study of women's roles in society analyzed from a historical, cross-cultural, and sociological perspective. Examination of the position of women in a changing society.

SOCI 224 Urban Sociology (4) Ecological and nonecological theories are used to study the processes of urbanization and the involvements and problems of the urban community. *Preq. SOCI 101*

SOCI 227 Sociology of Education (4) Social organization of education, teaching as a profession. Examines class, ethnic, and other social factors affecting the educational process. Focuses on educational institutions and their relationship to the community. *Preq. SOCI 101*

SOCI 234 Sociology of Aging (4) Various aspects of aging are examined with special emphasis on theories of aging, demographics, physical, psychological, and sociological aspects of the aging process.

SOCI 299 Topics in Sociology (1-4) Separate courses repeatable for credit.

SOCI 310 Gender Socialization (4) Focuses on the socio-cultural dynamics involved in the socialization process. Examines differential expectations, male and female identity formation, sex roles in the family, occupational stereotypes, and the changing nature of sex roles. *Preq. SOCI 101*

SOCI 311 Human Sexuality (4) An in-depth view of the current status of human sexuality in the U.S. Examines current research; modes of sexual expression and enhancement; physiological, sociological, and psychological basis of human sexuality; sexual variations; and sex ethics.

SOCI 325 Sociology of the Family (4) Historical perspective for understanding American family systems. Of central concern are the contemporary marriage process and context, family relationships, sexuality, family dysfunctions, and changes. *Preq. SOCI 101*

SOCI 326 Small Group Dynamics (4) Analysis of small group structure and processes; examination of roles, interpersonal relations, and leadership; and current theory and research on small group interaction. *Preq. SOCI 101*

SOCI 330 Social Theory (4) A study of major classical and contemporary sociological theories and their exponents. *Preq. SOCI 101*

SOCI 340 Sociology of Appalachia (4) Intensive study of Appalachia from sociological perspective. Emphasizes demography of Appalachia, sub-cultural characteristics, religion, social change, and community power in Appalachia.

SOCI 360 Alcoholism and Substance Abuse (4) Examines the action, use, and abuse of psychotropic drugs, including alcohol, prescription drugs, and illegal substances. Special focus is given to latest research on genetic predispostion for addictive behavior and its effect on the individual, family, and society. Cross-listed as PSYC 360, HPER 360. *Preq. SOCI 101 or PSYC 101*

SOCI 380 Sociological Methods (4) Overview which includes scientific method, measurement, experimentations, survey research, observational methods, case study techniques, and content analysis. *Preq. SOCI 101*

SOCI 400 Complex Organizations (4) Sociological analysis of complex organizations. Topics include theories, types of organizations, organizational change and conflict, and research in organizations. *Preq. SOCI 101*

SOCI 405 Death and Dying (4) Focus on increased ability to deal with one's own mortality; skills for working with terminally ill and their families; understanding the complex social system of death in American society; and moral, ethical, and philosophical issues surrounding death. Cross-listed as PSYC 405. *Preq. PSYC 101 or SOCI 101*

SOCI 410 Social Stratification (4) Analyzes stratification in the U.S. and other societies, focusing on income and wealth, role of family and education on social mobility, and inequality and influence of social class on public policy. *Preq. SOCI 101*

SOCI 429 Contemporary Minority Relations (4) Basic approaches are used to analyze American minority groups and their contemporary situation. Special emphasis is placed on patterns of prejudice and discrimination as well as the dynamics of race relations. *Preq. SOCI 101*

SOCI 444 Social Deviance (4) Examination of the concept of deviance in sociology and its implications for the study of contemporary social behavior. How people develop a concept of some being different from others and act on this definition. Possible topics include mental illness, crime, sexual deviance, non-conformity, and subcultures of deviance. *Preq. SOCI 101*

SOCI 450 Sociology of Occupations and Professions (4) Sociological analysis of contemporary occupations and professions in the U.S., social stratifications in the work place, technology, and the individual in the work place. *Preq. SOCI 101*

SOCI 485S Community Involvement (Core Course) (2) Community Involvement is an outgrowth of the purposes and objectives of the University. The series of activities integral to the Community Involvement course enhance the education of the student, complement the senior seminar, and communicate to the students their obligation to human beings in need and society at large.

SOCI 490S Senior Seminar (Core Course) (4) This course provides an opportunity for students to place their chosen field of study in an interdisciplinary context with intellectual, ethical, and historical perspectives. The seminar focuses on the synthesis and integration of various concepts by applying them to the analysis and solution of problems chosen in the context of their academic disciplines. Oral and written presentations of the seminar paper are required.

SOCI 499 Special Topics in Sociology (1-4) Individual or small-group study, under supervision of instructor, of topics not otherwise available to students. Separate courses repeatable for credit. *Preq. SOCI 101*

SPAN 111 Elementary Spanish 1 (4) Development of comprehension, speaking, reading, and writing skills in a cultural context. Basic grammar. Lab required. Initial course of three-quarter, first-year sequence.

SPAN 112 Elementary Spanish 2 (4) Continuation of SPAN 111. *Preq. SPAN 111*

SPAN 113 Elementary Spanish 3 (4) Continuation of SPAN 112. *Preq. SPAN 112*

SPAN 211 Intermediate Spanish 1 (4) Offers selected readings in Hispanic issues and literature to continue the development of communicative skills. Lab required. *Preq. SPAN 113 or 2-3 years of high school Spanish*

SPAN 212 Intermediate Spanish 2 (4) Continuation of SPAN 211. *Preq. SPAN 211 or instructor's approval*

SPAN 213 Intermediate Spanish 3 (4) Emphasizes the ability to read with detailed understanding, creative and accurate use of vocabulary items, use of subordinate structures in oral communication, and the ability to communicate in writing using complex sentence structures. *Preq. SPAN 212 or instructor's approval*

SPAN 311 Composition and Conversation (4) A follow-up to SPAN 213 with special emphasis on oral proficiency and applied grammatical concepts. In preparation to reading and writing, contemporary videos and films are used to stimulate discussion. *Preq. SPAN 213 or fluency in Spanish communicative skills*

SPAN 399 Special Topics (1-4) Designed for native speakers of Spanish, or non-native speakers who have acquired communicative skills in the language. The course analyzes the work of contemporary Latin-American writers, as well as Hispano-American writers in the U.S. *Preq. native speaker fluency in communicative skills (listening, speaking, reading, and writing)*

SPCH 103 Public Speaking and Human Communication (3) Principles of public speaking and practice in presenting informative and persuasive speeches with emphasis on the human communication process.

SPCH 105 Introduction to Mass Communication (4) Study of all forms of mass communication, including newspapers, magazines, radio-television, book publishing, public relations, advertising, and photojournalism. Begins with an analysis of communication process and ends with media career opportunities.

SPCH 215 Group Discussion (4) Study of structure and internal dynamics of small groups, nature and functions of leadership and group participation, and problem solving and decision making. Frequent participation in group discussion activities.

SPCH 220 Oral Interpretation of Literature (4) Techniques of oral interpretation and development of adequate intellectual and emotional responsiveness to meaning of literature.

SPCH 299 Topics in Communications (1-4) Study of various topics not otherwise available to students. Repeatable for credit.

THAR 120 Introduction to Stagecraft (3) Principles of technical production. May be repeated for credit. *2 lec. 1 lab*

THAR 121 Introduction to Lighting (3) Principles of technical production. May be repeated for credit. *2 lec. 1 lab*

THAR 122 Introduction to Costume (3) Principles of technical production. May be repeated for credit. *2 lec. 1 lab*

THAR 131 Improvisation (2) Introduction to the uses of improvisation as a means for exploration of self and text and as an entertainment tool.

THAR 132 Elements of Performance (4) Introduction to the elements of performance that create theater and drama, including text, performer, spectacle, spectator, and performance space. Attendance at university theater productions is required.

THAR 135 Practicum in Production Design (2-4) Supervised lab practice in design and execution of scenery, lighting, costumes, properties, and sound. May be repeated for credit.

THAR 170 The Theater Experience (4) Exploration of nature and function of theater as art form through exploration of performer/space/audience interrelationship. Attendance at selected rehearsals and performances. Theater productions augment lecture and discussion sessions. Attendance at selected professional theatrical performances may be included.

THAR 201 Children's Theater (5) Designed to cover dramatic compositions and practical production procedures.

THAR 205 Practicum in Management (2-4) Supervised lab practice in problems of theater publicity, finance, and house management. May be repeated for credit.

THAR 210 Acting 1 (4) Principles and techniques of acting with major emphasis on developing trust and freedom. Warm-up techniques, theater games, improvisation, monologue exercises, and preliminary scoring techniques underline this introduction to the work of the actor.

THAR 211 Acting 2 (4) Continuation of training started in THAR 210, with addition of more detailed character development, scoring techniques, and ensemble considerations through duet scene work.

THAR 212 Acting 3 (4) For serious acting student, this course completes the second year sequential training program. Primary emphasis is to apply techniques learned in THAR 210 and 211 to more lengthy and complicated scene structures. Long duet scenes and multi-character scenes or short plays used for study and performance. Public performances are frequently incorporated into final work in this course.

THAR 215 Practicum in Acting (2-4) Supervised lab practice in rehearsal and public performance of roles. May be repeated for credit. *Preq. instructor's permission*

THAR 220 Oral Interpretation (4) Techniques in oral interpretation and development of intellectual and emotional responsiveness to meaning of literature.

THAR 235 Practicum in Production Design (2-4) Supervised lab practice in design and execution of scenery, lighting, costumes, properties, and sound. May be repeated for credit. *Preq. instructor's permission*

THAR 237 Basic Make-up (1) Theory and practice of stage make-up. *1 lec. 1 lab*

THAR 331 Directing 1 (4) Principles and practices of directing for stage.

THAR 332 Theater History (3) Development of theater and drama. May be repeated for credit.

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Clarke, Caroline C. (1987)
Controller
B.S., American University
B.C.S., M.C.S., Benjamin Franklin University

Come, G. Scott (1971)
Associate Provost
B.A., West Virginia Wesleyan
M.A., Indiana University of Pennsylvania
Ph.D., Ohio University

Chrisman, Frederick, Jr. (1969)
Director of Student Activities
B.S., Ohio University
M.Ed., Xavier University

Crabtree, Paul D. (1975)
Assistant Vice President of Student Services/Director of Counseling and Assessment
B.S.Ed., M.Ed., Ph.D., Ohio University

Crusan, Kenneth E. (1984)
System Manager
A.A.B., Shawnee State Community College
B.B.A., Ohio University

Davidson, Richard T. (1972)
Director of Career Planning and Placement
B.A., M.A., Marshall University

Dawson, Paul R. (1981)
Director of University Information Systems

Dolan, Robert T. (1989)
Technical Services Librarian
B.A., St. Xavier College
M.L.S., University of Indiana
J.D., University of Notre Dame

Duncan, William Peter (1983)
Media Services Coordinator
B.S., Ohio University

Eichas, Toby (1989)
Assistant Director of Admission
B.A., Kings College
B.A., Huntingdon College
M.A., University of Miami

Evans, Cynthia J. (1981)
GED Program Coordinator
A.A., Shawnee State Community College
B.S.Ed., M.Ed., Ohio University

Evans, Danny L. (1981)
Director of Continuing Education
B.S.Ed., Ohio University
M.A.Ed., Morehead State University

Flavin, James P. (1983)
Division Chair
Associate Professor, English
Division of Arts and Humanities
M.A., Fort Hays State University
Ph.D., Miami University

Fowler, Paul (1971)
Director of Programs, SOCF
B.S., L.L.B., J.D., The Ohio State University

Gampp, Michael L. (1982)
Associate Director of Programming and Systems
B.S., M.B.E., Morehead State University

Gleason, David L. (1983)
University Facility Planner
B.S., Ohio University
M.A., The Ohio State University
Ph.D., Ohio University

Gulker, Gary D. (1983)
Director, Center for Business and Industry/OTTO
B.S., Findlay College
M.Ed., Ohio University

Hannah, William A. (1987)
Educational Media Specialist
B.S., Ohio University

Hatfield, Melvin (1986)
Director, Emergency Care Educational Programs
A.S., Otterbein College
B.S.N., Ohio University

Hatton, Rick L. (1987)
Manager Networking and Technical Service

Hawk, R. Neil (1976)
Vice President of Business and Finance
B.B.A., Ohio University

Horr, Catherine H. (1987)
Assistant to the Provost
B.A., Swarthmore College
M.A., Ph.D., Ohio University

Howard, Richard R. (1971)
Vice President of Student Services
B.S., The Ohio State University
M.Ed., Eastern Kentucky University

Kadel, James R. (1981)
Dean
School of Allied Health and Nursing
B.A., D.D.S., The Ohio State University
M.Ed., Cleveland State University
M.B.A., Ohio University

Kinson, Joyce R. (1987)
Accountant
B.A., University of Maryland

Marsh, Eleanor A. (1976)
Division Chair, Assistant Professor
Sociology/Anthropology
Division of Social Science
B.A., Washington State College
M.A., Washington State University
M.B.A., Ohio University

Midkiff, Stephen J. (1977)
Registrar
B.A., University of Kentucky
M.Ed., Harvard University

Midkiff, Tess D. (1975)
Director of Library/Media Services
B.A., University of Kentucky
M.S., Simmons College

Mitchell, Lori (1989)
Program Associate, Continuing Education
B.S.Ed., Ohio University
M.Ed., Xavier University

Moore, Mark A. (1987)
Administrative Computer Programmer
A.A.S., Shawnee State Community College
B.A., Ohio University

Payne, Roy B. (1988)
Dean
School of Business Administration
B.S., Morris Harvey College
M.B.A., Indiana University

Peters, Jock D. (1987)
Director of Physical Facilities
B.S., University of Houston

Poston, Rosemary K. (1986)
Director of Admission
B.S., Ohio Dominican College
M.A., The Ohio State University

Ramey, Virginia C. (1984)
Director of Special Programs and Community Services
B.S.Ed., M.B.A., Ohio University

Salyers, Connie E. (1988)
Reference Librarian
B.S., Wright State University
M.L.S., George Peabody College for Teachers

Shupert, John W. (1971)
Acting Division Chair
Professor, Mathematics
Division of Mathematics and Science
B.S., Ohio University
M.A., University of Illinois and Louisiana State University

Straziuso, Louisa M. (1982)
Reference Librarian
B.M.E., Heidelberg College
M.L.S., Kent State University

Stottlemyer, Gary (1989)
Automated Services Librarian
B.A., M.S.L.S., University of Kentucky

Taylor, Dale F. (1988)
Coordinator, Student Assessment Services
A.I.S., Shawnee State Community College
B.G.S., Ohio University
M.H.E., Morehead State University
L.S.W., State of Ohio

Thoroughman, Timothy Alan (1989)
Construction Manager
B.S.C.E., Ohio University
P.E., P.S.

Tomlin, Mary Ann (1975)
MIS Resource Specialist
A.A.B., Shawnee State University

Veri, Clive C. (1989)
President
B.S., State University of New York at Oswego
M.A., University of Maryland
Ph.D., University of Nebraska

Vournazos, Rick (1988)
Student Services Coordinator, SOCF
B.B.A. Ohio University
M.B.A., Xavier University
B.S.Ed., Ohio University

Walker, Charles Melton (1987)
Administative Computer Programmer
A.A.B., Shawnee State University

Warsaw, Susan S. (1983)
Director of Development and Community Relations
B.A., The Ohio State University

Weinbrecht, Harry E. (1967)
Associate Professor/Athletic Director/Director of Health Club
B.S.Ed., Ohio University
M.A., Xavier University

Welton, John D., Sr. (1988)
Bursar
A.A.B., Shawnee State Community College

Wesolowski, Thomas E. (1989)
Director of Public Relations
B.S., Ball State University

Wilson, Eugene D. (1974)
Director of Financial Aid/Veterans' Coordinator
B.S., Ohio University
M.A., Xavier University

Winters, David Z. (1989)
Dean
School of Engineering Technologies
B.S., M.S., University of Dayton

Faculty

Abel, Joanne S. (1978)
Program Director, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., Alderson-Broaddus College
M.A., West Virginia College of Graduate Studies

Akbary, Yousef (1988)
Assistant Professor, Electrical and Computer Engineering
School of Engineering Technologies
M.S., University of Alabama

Alex, Alexander (1988)
Professor, Economics
Division of Social Science/School of Business Administration
B.A., Kerala University
M.A., Banaras University
M.A., Ph.D., Indiana University

Allison, Sheryl (1978)
Assistant Professor, Dental Hygiene
School of Allied Health and Nursing
B.S., The Ohio State University
M.Ed., Ohio University

Barry, Gerald E. (1980)
Senior Instructor, Data Processing
School of Business Administration
B.S.C., Ohio University

Basham, Julia L. (1982)
Assistant Professor, Biology
Division of Mathematics and Science
B.A., B.S., M.S., University of Cincinnati

Bauer, Jeffrey A. (1987)
Assistant Professor, Geology
Division of Mathematics and Science
B.S., Bowling Green State University
M.S., Ph.D., The Ohio State University

Bestic, Mary Ann (1987)
Coordinator, Senior Instructor
Respiratory Therapy
School of Allied Health and Nursing
B.S.A.S., Youngstown State University

Biddle, James R. (1986)
Director
Center for Research and Development in Teaching and Learning
B.A., Bob Jones University
M.Ed., University of Cincinnati
Ph.D., The Ohio State University

Bihl, Debra E. (1983)
Assistant Professor,
Associate Degree Nursing
School of Allied Health and Nursing
A.D.N., Shawnee State Community College
B.S.N., Ohio University
M.S.N., University of Cincinnati

Bowman, Thomas (1988)
Senior Instructor, Physical Education
Center for Research and Development in Teaching and Learning
B.S., M.A., West Virginia University

Burke, Robbie (1974)
Associate Professor, Management
School of Business Administration
B.A., West Virginia Wesleyan
M.S., M.B.A., Marshall University

Byrne, Francis X. (1987)
Associate Professor, Linguistics
Division of Arts and Humanities
B.A., M.A., Colorado State University
Ph.D., University of Arizona

Chaffin, Cathy M. (1980)
Associate Professor, Secretarial
School of Business Administration
B.S., Berea College
M.B.E., Morehead State University

Chrisman, Elizabeth (1980)
Assistant Professor, Dental Hygiene
School of Allied Health and Nursing
A.A.S., Scioto Technical College
B.S., M.Ed., Ohio University

Coll, Julia R. (1987)
Assistant Professor, Spanish
Division of Arts and Humanities
Licenciada en Educacion,
Universidad de Oriente
M.A., M.Ed., Ph.D., University of Arizona

Crothers, Shirley Evans (1968)
Associate Professor, Music
Division of Arts and Humanities
B.S., The Ohio State University
M.F.A., Ohio University

Day, D. James (1987)
Associate Professor, Management
School of Business Administration
B.S., West Liberty State College
M.B.A., Eastern New Mexico University
Ph.D., The University of Iowa

Deal, D. Robert (1988)
Associate Professor, Botany
Division of Mathematics and Science
B.A., Capital University
M.A., Miami University
Ph.D., Cornell University

Dillon, Mary E. (1983)
Senior Instructor, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., Ohio University

Doster, Steven J., CPA, CMA (1989)
Assistant Professor
Accounting
School of Business Administration
B.S., The College of William and Mary
M.B.P.A., Southeastern University

Dzik, Anthony (1988)
Assistant Professor
Geography
Division of Social Science
B.A., Roosevelt University
M.A., University of Toledo
Ph.D., Northwestern University

Edwards, Barbara K. (1981)
Assistant Professor
English
Division of Arts and Humanities
B.A., University of Kentucky
M.A., Marshall University

Essman, Larry C., CPA (1976)
Associate Professor
Accounting
School of Business Administration
B.A., M.A., Ohio University

Estepp, Larry M. (1972)
Associate Professor
Management
School of Business Administration
B.B.A., Ohio University
M.S., M.B.A., Marshall University

Flavin, James P. (1983)
Division Chair
Associate Professor, English
Division of Arts and Humanities
M.A., Fort Hays State University
Ph.D., Miami University

Frazee, R. Thomas (1976)
Associate Professor, Chemistry
Division of Mathematics and Science
B.S., Marshall University
M.S., Iowa State University

Friley, Jane M. (1981)
Senior Instructor, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., University of Kentucky

Gampp, Anna R. (1971)
Assistant Professor, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., The Ohio State University
M.Ed., Ohio University

Gearheart, Phillip H. (1987)
Associate Professor, Art
Division of Arts and Humanities
B.A., Wichita State University
M.S., M.F.A., Indiana University

Gemmer, Gary P. (1983)
Associate Professor, Physics
Division of Mathematics and Science
B.S., Morehead State University
M.A.T., Miami University

Gilmer, Anita M. (1983)
Senior Instructor, Data Processing
School of Business Administration
B.S., Indiana University of Pennsylvania

Goetting, Melvin J. (1987)
Senior Instructor, Data Processing
School of Business Administration
B.B.A., M.B.A., University of Toledo

Granger, Judith C. (1988)
Assistant Professor, Education
Center for Research and Development in
Teaching and Learning
B.S., University of Maine
M.Ed., Kent State University

Gulker, Emily E. (1965)
Associate Professor, Speech and Theater
Division of Arts and Humanities
B.S.Ed., The Ohio State University
M.A., Marshall University

Hadjiyannis, Stylianos (1989)
Assistant Professor, Political Science
Division of Social Science
B.A., California State University
M.A., Ph.D., University of California

Hagen-Smith, Robin G. (1984)
Senior Instructor, Physical Education
Center for Research and Development in Teaching and Learning
B.S., Rio Grande College
M.Ed., Xavier University

Hamilton, Virginia M. (1987)
Assistant Professor, Mathematics
Division of Mathematics and Science
B.S., M.A., Ball State University

Hanlon, William J. (1988)
Assistant Professor, Data Processing
School of Business Administration
B.S., University of Pittsburgh
M.B.A., Cleveland State University

Herrmann, Sibylle R. (1969)
Associate Professor, Biological Sciences
Division of Mathematics and Science
B.S., Ohio University
M.S., University of Michigan

Hodgden, Betty (1975)
Associate Professor, English
Division of Arts and Humanities
B.A., Otterbein College
M.A., Marshall University

Irwin, C. Ray (1971)
Associate Professor, Electromechanical Engineering
School of Engineering Technologies
B.S., M.Ed., Ohio University

James, Jack E. (1973)
Professor, Psychology
Division of Social Science
B.A., Houghton College
M.S., Alfred University
M.Div., Colgate Rochester Divinity School

Jenkins, Loretta (1982)
Assistant Professor, Accounting
School of Business Administration
A.A.B., Shawnee State Community College
B.B.A., M.Ed., Ohio University

Kadel, James R. (1981)
Dean
School of Allied Health and Nursing
B.A., D.D.S., The Ohio State University
M.Ed., Cleveland State University
M.B.A., Ohio University

Kegley, Phyllis C. (1974)
Associate Professor, Mathematics
Division of Mathematics and Science
B.S., The Ohio State University
M.A., Marshall University

Kelley, John L. (1969)
Associate Professor, History/Political Science
Division of Social Science
B.A., Marian College
M.A., Indiana University

Kiser, Joyce A. (1972)
Associate Professor, Secretarial
School of Business Administration
B.A., M.B.E., Morehead State University

Kiser, Shannon (1972)
Associate Professor, English
Division of Arts and Humanities
B.A., Morehead State University
M.A., University of Kentucky

Kramer, Valerie J. (1984)
Program Director
Occupational Therapy Assistant Program
School of Allied Health and Nursing
B.S., The Ohio State University

Lawson, Patricia Ann (1986)
Program Director, Senior Instructor
Physical Therapist Assistant Program
School of Allied Health and Nursing
B.S., University of Kansas

Manuta, David M. (1988)
Assistant Professor, Chemistry/Physical Science
Division of Mathematics and Science
Ph.D., SUNY at Binghamton

Marsh, Eleanor A. (1976)
Division Chair
Assistant Professor, Sociology/Anthropology
Division of Social Science
B.A., Washington State College
M.A., Washington State University
M.B.A., Ohio University

Massie, Gayle D. (1982)
Senior Instructor, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., Spalding University
M.S.N., University of Tennessee

Miner, Edward C. (1983)
Associate Professor, Psychology
Division of Social Science
B.A., Youngstown State University
M.A., Kent State University
Ph.D., Kent State University and Akron University

Mirabello, Mark L. (1987)
Assistant Professor, History
Division of Social Science
B.A., University of Toledo
M.A., University of Virginia
Ph.D., University of Glasgow (Scotland)

Montavon, Melinda K. (1988)
Assistant Instructor, Occupational Therapy
School of Allied Health and Nursing
A.A.S., Shawnee State Community College

Moore, Dan M. (1988)
Associate Professor, Management
School of Business Administration
B.S., University of Virginia
M.B.A., D.B.A., Georgia State University

Mullens, Barbara (1980)
Assistant Professor, Dental Hygiene
School of Allied Health and Nursing
A.A.S., Scioto Technical College
B.S., M.Ed., Ohio University

Nickel, Linda (1978)
Assistant Professor, Dental Hygiene
School of Allied Health and Nursing
A.A.S., Scioto Technical College
B.S., M.Ed., Ohio University

Nixt, Henry C. (1987)
Associate Professor, Mathematics
Division of Mathematics and Science
B.S., Lonas College
M.S., Ph.D., The Ohio State University

Oliver, Scott D. (1976)
Professor, Biological Science
Division of Mathematics and Science
D.D.S., The Ohio State University

Osborne, Dane H. (1988)
Senior Instructor, Physical Therapist
Assistant Program
School of Allied Health and Nursing
B.S., The Ohio State University

Payne, Roy B. (1988)
Dean
School of Business Administation
B.S., Morris Harvey College
M.B.A., Indiana University

Pambookian, Hagop S. (1987)
Associate Professor, Psychology
Division of Social Science
B.A., American University of Beirut
M.A., Columbia University
Ph.D., University of Michigan

Penn, William H. (1977)
Associate Professor, Computer Aided Drafting and Design
School of Engineering Technologies
B.S.A.S., Miami University
M.Ed., Ohio University

Pinkerman, Brenda F. (1982)
Assistant Professor, Medical Laboratory
School of Allied Health and Nursing
B.S.M.T., M.S., Marshall University

Priode, Carl (1985)
Senior Instructor, Electromechanical Engineering
School of Engineering Technologies
B.S., Franklin University

Rashidi, Nasser H. (1987)
Assistant Professor, Electrical and Computer Engineering
School of Engineering Technologies
A.S., Northeast State College
B.A., M.S., Tuskegee University
Ph.D., University of Wyoming

Ruby, Jerry L. (1988)
Assistant Professor, Finance
School of Business Administration
B.B.A., Ohio University
M.B.A., Morehead State University

Scott, Edmon (1978)
Assistant Professor, Instrumentation and Control
School of Engineering Technologies
B.S., Bowling Green State University

Scott, Sharon M. (1978)
Assistant Professor, Associate Degree Nursing
School of Allied Health and Nursing
A.D.N., B.S.N., M.Ed., Ohio University

Shupert, John W. (1971)
Acting Division Chair
Professor, Mathematics
Division of Mathematics and Science
B.S., Ohio University
M.A., University of Illinois and Louisiana State University

Simon, Kathleen (1971)
Associate Professor, English
Division of Arts and Humanities
B.A., M.A., Eastern Kentucky University

Smith, Lyle B. (1975)
Assistant Professor, Plastics
School of Engineering Technologies
B.S., Ohio University

Staton, Pamela J. (1988)
Program Director, Medical Laboratory
School of Allied Health and Nursing
B.S., Morehead State University
M.S., West Virginia University

Stead, Thomas D. (1969)
Associate Professor, Art
Division of Arts and Humanities
B.F.A., M.F.A., Ohio University

Strunk, Priscilla Sunny (1984)
Instructor, Respiratory Therapy
School of Allied Health and Nursing
A.A.S., Shawnee State University

Stuck, Andrea F. (1988)
Assistant Professor, Education
Center for Research and Development in Teaching and Learning
B.S., M.A., Ph.D., The Ohio State University

Sykes, William W. (1981)
Program Director
Assistant Professor, Radiologic Technology
School of Allied Health and Nursing
A.A.S., Central Ohio Technical College
B.S., The Ohio State University
M.B.A., Xavier University

Thiel, Becky A. (1981)
Senior Instructor, Associate Degree Nursing
School of Allied Health and Nursing
B.S.N., The Ohio State University
M.S.N., University of Tennessee

Thomas, Donald L. (1986)
Program Director
Associate Professor, Respiratory Therapy
School of Allied Health and Nursing
A.S., Kettering College of Medical Arts
B.S., Georgia State University

Thomas, Jack A. (1982)
Senior Instructor, Radiologic Technology
School of Allied Health and Nursing
B.S., The Ohio State University

Todt, David E. (1978)
Division Chair
Associate Professor, Biology
Division of Mathematics and Science
B.S., M.En.S., Miami University

Trampe, George M. (1977)
Associate Professor, Chemistry
School of Engineering Technologies/Division of Mathematics and Science
B.S., University of Illinois
Ph.D., Purdue University

Walke, Jerry L. (1976)
Professor, Psychology
Division of Social Science
B.S., Capital University
M.Ed., Ph.D., The Ohio State University

Walker, Marsha L. (1987)
Senior Instructor, Secretarial
School of Business Administration
B.S., M.A., The Ohio State University

Waller, Betty (1968)
Associate Professor, Physical Education
Center for Research and Development in Teaching and Learning
B.S., Miami University
M.A., Marshall University

Wilson Robert L. (1978)
Professor, English
Division of Arts and Humanities
B.S., Kent State University
M.Ed., Xavier University
Ph.D., Florida State University

Winters, David Z. (1989)
Dean
School of Engineering Technologies
B.S., M.S., University of Dayton

Yost, Carlson W. (1987)
Assistant Professor, English
Division of Arts and Humanities
Ph.D., Texas A & M

Yun, C. H. (Nan) (1988)
Associate Professor, English
B.A., San Francisco State University
M.A., University of Chicago
Ph.D., Syracuse University

Shawnee State University
Portsmouth, Ohio 45662

Application for Admission

Please complete this application and return it to the Office of Admissions at Shawnee State University. Also include the non-refundable $20 application fee and your high school transcript or general equivalence certificate (GED). If you have attended another college or university, the registrar from that institution must forward an official college transcript to the Office of Admission at Shawnee State.

Personal Data

Name: _____
Last First Former

Local Address: _____
Street & Number City State Zip Code County

Permanent or
Parents' Address: _____
Street & Number City State Zip Code County

Place of Birth: _____ Date of Birth: _____
State County

Home Phone: ( ) _____ Social Security Number: _____

High School Attended: _____ Grad. Date: _____ GED: _____
Date Received

High School Address: _____
City State Zip Code County

Sex: ☐ M ☐ F Marital Status: ☐ (1) Married ☐ (2) Single ☐ (3) Divorced ☐ (4) Widowed

Resident Status for Past 12 Months:
- ☐ 10—Resident of Scioto County
- ☐ 1—Resident of Ohio, Not Scioto County
- ☐ 2—Resident of Another State: County _____
- ☐ 3—Other National
- ☐ 4—Foreign: Visa Type _____

Applied to SSU previously?
☐ Yes ☐ No

*Race/Ethnic:
- ☐ 1—Black/Negro
- ☐ 2—American Indian or Alaskan
- ☐ 3—Asian or Pacific Islander
- ☐ 4—Hispanic
- ☐ 5—Caucasian/White

Housing/Living Arrangements:
- ☐ 1—Commuter (drive from home)
- ☐ 2—On-Campus Housing
- ☐ 4—Other

Handicapped Status:
Do you want to claim handicapped status? ☐ Yes ☐ No

Transfer Information

(Required only if you have previous college work)

Previous College/University Attended: _____

Degree Earned: _____ Dates Attended: _____ to _____

Did you receive financial aid? ☐ Yes ☐ No

Did you receive veteran's benefits? ☐ Yes ☐ No

Student Intent in Enrolling

- ☐ A. Work toward an Associate Degree (2-year degree)
- ☐ B. Work toward a Bachelor's Degree (4-year degree)
- ☐ C. Work toward a one-year certificate
- ☐ D. Gain qualifications and skills for employment (non-degree)
- ☐ E. Take course for personal enrichment (non-degree)
- ☐ F. Complete course for transfer to another institution (non-degree)

How did you hear about Shawnee State University? _____

***This institution does not discriminate with regard to race, age, color, sex, religion, political affiliation, or national origin; the information requested is for state and federal reports on equal opportunity for education or employment.**

I am making application for the following major:

School of Allied Health and Nursing

Associate Degree

- ☐ 21200 Dental Hygiene
- ☐ 22200 Associate Degree Nursing
- ☐ 23200 Medical Lab
- ☐ 24200 Occupational Therapy Assistant
- ☐ 25200 Physical Therapist Assistant
- ☐ 26200 Radiology
- ☐ 27200 Respiratory Therapy

Certificate

- ☐ 28100 EMT

School of Business Administration

Bachelor's Degree

- ☐ 11400 Business Administration/General

Associate Degree

- ☐ 12201 Accounting/Professional
- ☐ 12202 Accounting/Management
- ☐ 11200 Business Management/General
- ☐ 11201 Business Management/Management
- ☐ 11202 Business Management/Banking & Finance
- ☐ 11203 Business Management/Real Estate
- ☐ 11204 Business Management/Retail
- ☐ 11205 Business Management/Small Business
- ☐ 13200 Data Processing
- ☐ 14200 Secretarial/General
- ☐ 14201 Secretarial/Executive

School of Engineering Technologies

Bachelor's Degree

- ☐ 31400 Electrical & Computer Engineer. Tech.
- ☐ 32400 Plastics Engineering Technology

Associate Degree

- ☐ 32200 Plastics Engineering Technology
- ☐ 33200 Electromechanical Engineering Technology
- ☐ 33301 Electromechanical Eng. Tech./Robotics
- ☐ 34200 Instrumentation Technology
- ☐ 34301 Instrumentation Technology/Robotics

Certificate

- ☐ 35100 Computer Aided Drafting and Design

Division of Arts and Humanities

Bachelor's Degree

- ☐ 41400 English/Humanities—General
- ☐ 41401 English/Humanities—Elementary Education

Associate Degree

- ☐ 41200 Arts/Humanities—General
- ☐ 41201 Arts/Humanities—Art
- ☐ 41202 Arts/Humanities—Communications
- ☐ 41203 Arts/Humanities—Comparative Arts
- ☐ 41204 Arts/Humanities—English
- ☐ 41205 Arts/Humanities—Journalism
- ☐ 41206 Arts/Humanities—Music
- ☐ 41207 Arts/Humanities—Theater

Center for Research and Development in Teaching and Learning (CRADTAL)

- ☐ 50400 Education/General
- ☐ 50401 Education/Elementary

Division of Science and Mathematics

Bachelor's Degree

- ☐ 61400 Natural Science
- ☐ 61401 Natural Science/Elementary Education
- ☐ 61402 Natural Science/Applied Mathematics
- ☐ 61403 Natural Science/Chemistry
- ☐ 61404 Natural Science/Environmental Biology
- ☐ 61405 Natural Science/Life Science
- ☐ 61406 Natural Science/Physical Science
- ☐ 61407 Natural Science/Pre-Medicine
- ☐ 61408 Natural Science/Pre-Veterinary

Associate Degree

- ☐ 61200 Mathematics/Sciences
- ☐ 61201 Mathematics/Sciences—Botany
- ☐ 61202 Mathematics/Sciences—Chemistry
- ☐ 61203 Mathematics/Sciences—Mathematics
- ☐ 61204 Mathematics/Sciences—Physics
- ☐ 61205 Mathematics/Sciences—Zoology
- ☐ 61206 Mathematics/Sciences—Forestry

Division of Social Sciences

Bachelor's Degree

- ☐ 71400 Social Sciences
- ☐ 71401 Social Sciences/Elementary Education
- ☐ 71402 Social Sciences/History
- ☐ 71403 Social Sciences/Pre-Law
- ☐ 71404 Social Sciences/Psychology
- ☐ 71405 Social Sciences/Sociology

Associate Degree

- ☐ 71200 Social Science
- ☐ 71201 Social Science/Government
- ☐ 71202 Social Science/History
- ☐ 71204 Social Science/Psychology
- ☐ 71205 Social Science/Sociology
- ☐ 71206 Social Science/Social Work

Other

- ☐ 00000 Special, Non-Degree
- ☐ 00001 Undecided
- ☐ 01200 Associate of Individualized Studies
- ☐ 88888 GED

QUARTER AND YEAR YOU PLAN TO ATTEND:

☐ Fall ☐ Winter ☐ Spring ☐ Summer Yr. _____

Name and Address of Hometown Newspaper: _____

_____

_____

I certify that the statements included in this application are accurate and true to the best of my knowledge. Any falsification of information may result in disciplinary action including dismissal.

_____ _____

Signature of Applicant Date

MAILING ADDRESS: Please return the completed application and a non-refundable $20 check or money order made payable to Shawnee State University to the Office of Admission, Shawnee State University, 940 Second Street, Portsmouth, Ohio 45662-4303.

This institution does not discriminate with regard to race, age, color, sex, religion, political affiliation, or national origin; the information requested is for state and federal reports on equal opportunity for education or employment. This institution, in compliance with Section 504 of the 1973 Rehabilitation Act, does not discriminate against handicapped persons.

Telephone Directory

Admissions	355-2221
Allied Health and Nursing, School of	355-2225
Alumnae Affairs	355-2284
Arts and Humanities, Division of	355-2300
Athletics	255-2285
Bookstore	355-2203
Bursar/Cashier	355-2279
Business Administration, School of	355-2215
Career Planning and Placement	355-2213
Center for Research and Development in Teaching and Learning	355-2301
Continuing Education	355-2274
Controller's Office	355-2265
Counseling and Assessment	355-2213
Dental Hygiene Clinic	355-2241
Engineering Technologies, School of	355-2224
Financial Aid	355-2237
Health Club	355-2269
Learning Center	355-2258
Library	355-2255
Media Services	355-2256
Minority, Handicapped, and Special Services	355-2280
Personnel Office	355-2324
Physical Facilities	355-2292
Provost's Office	355-2260
Purchasing Office	355-2314
Registrar's Office	355-2395
Science and Mathematics, Division of	355-2301
Social Science, Division of	355-2234
Student Activities	355-2217
Student Government	355-2320
Student Union	355-2275
University Information Systems (EPD & Communications)	355-2345

Shawnee State University
940 Second Street
Portsmouth, Ohio 45662-4303

(614) 354-3205
1-800-344-4SSU (toll-free in Ohio)

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How to get to Shawnee State . . .

. . . from Cincinnati

Take Rt. 32 East to Rt. 23 South. Stay on Rt. 23 to Second Street in Portsmouth. Turn left on Second Street.

. . . from Dayton

Take Rt. 35 South to Rt. 23 South. Stay on Rt. 23 to Second Street in Portsmouth. Turn left on Second Street.

. . . from Columbus

Take Rt. 23 South to Second Street in Portsmouth. Turn left on Second Street.

. . . from Cleveland

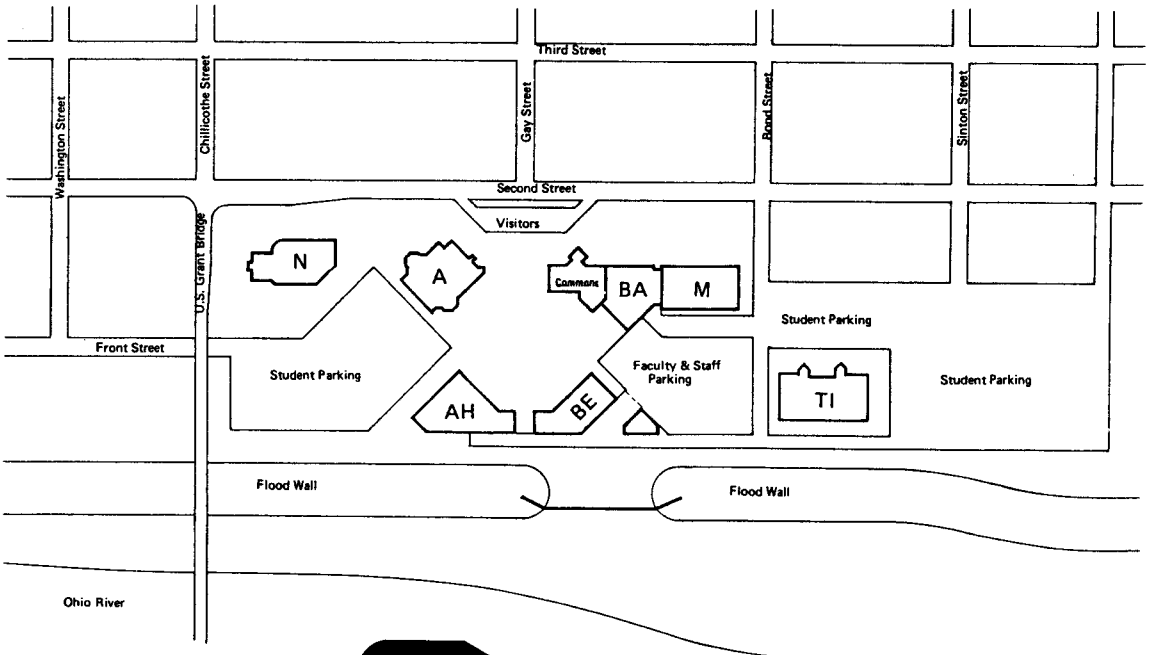
Take Rt. 71 South to Rt. 23 South (Circleville exit). Take Rt. 23 South to Second Street in Portsmouth. Turn left on Second Street.

. . . from Toledo

Take Rt. 75 South to Rt. 23 South (Findlay). Take Rt. 23 South to Second Street in Portsmouth. Turn left on Second Street.

. . . from Kentucky

Take Rt. 23 North from Ashland across the U.S. Grant Bridge. Turn right on Second Street at the end of the bridge.



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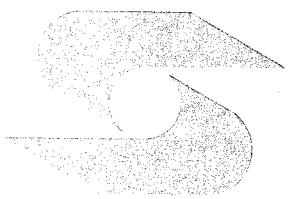

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